Lacey's
Australia TM
The Kauffmans
A NATION AT WAR
DOLLY
Gerry Gee
TARAX
CLUB
Catalogue 103

Introduction

The importance of quality TV reception equipment is underlined by the introduction of Digital Terrestrial Television broadcasts. While the promise of digital in terms of picture quality and additional services is great, quality distribution equipment and the right instrumentation will be more important than ever as the difference between perfect pictures and total picture loss can be a very small margin.

Lacey's Australia offers perhaps the most comprehensive range of Australian made and imported Television Reception equipment. Australian made product in this catalogue is identified by the Australian flag flying near it. Our team is equipped to handle your enquiries keeping to the guiding rule: if we don't know the answer to your question, we will say so. Our Antennas have become the choice of the ABC in Melbourne and are employed succesfully in a number of other Australian TV broadcast environments. Our products are increasingly the choice of technically aware installers for regular TV installation work too.

A better product need not cost more, and at Lacey's we all work hard to ensure this is almost always the case. Quantity discounts are available to volume purchasers. If this shortform catalogue doesn't describe what you need, and it is for television, we are likely to be able to obtain it for you.

The technical section of this catalogue includes an outline to help in the planning of TV distribution systems. We offer an advisory service to professional installers to help solve TV reception problems.

We will be happy to hear from you.

Peter Lacey
Managing Director.

Sales vans loading up at Frankston

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COVER: Is the beginning of the digital TV era an appropriate time to look to the past? Collage is courtesy of TV World, the Australian museum of modern media at Moorooduc on the Mornington Peninsula in Victoria. Views include Graeme Kennedy on the GTV clock, The Sullivans memorabilia, an original VTR, the first instant replay disk for VFL action replay (maximum of 7 seconds!), Ron Blaskett & Gerry Gee with a tiny pair of Raoul Merton shoes, and an early Marconi Television camera.

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Beware of Specifications

Our gain figures often look tame when compared to those quoted by competitors. As radio frequency performance figures can be made under questionable circumstances or even exaggerated, we suggest our customers make their own measurement based performance tests.

Terms Of Trade:

Pricing & Goods and Services Tax: Numbers shown in italics with each product are the Trade price before GST, and a suggested Retail in Australian $ including GST. This way we display price with product yet the page can be shown to retail customers. Transparency of GST to business means Trade is the effective cost even though GST will be added at the time of purchase. Trade prices apply to businesses and trades people in TV antenna installation, sales and associated industries only. Retail prices reflect the trade price with profit margin and 10% GST added. Retail prices are suggestions only, there is no obligation to comply.

Payment: Lacey's accept Cash, Cheque, Visa/Bankcard/ Mastercard. Strictly 30 day credit account terms are available to approved customers. Account customers may be subject to denial of further credit if amounts remain outstanding beyond 14 days from end of the month following date of invoice, commonly known as 45 days.

Ownership: Goods remain the property of Peter C. Lacey Services Pty. Ltd. until paid for in full.

Minimums: No minimum order policy applies.

Freight: Lacey's ship daily with a number of quality parcel delivery services. Express Post satchels are available.

Insurance is the responsibility of the receiver.

Returns are only accepted with Return Authorization Number, a copy of our Invoice, within 14 days of invoice date, and may be subject to a 20% handling charge.

Technical information is offered without liability. Pricing may be subject to change without notice. Errors and omissions excepted. Printed and produced in Australia.
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Log Periodic Multiband Antennas

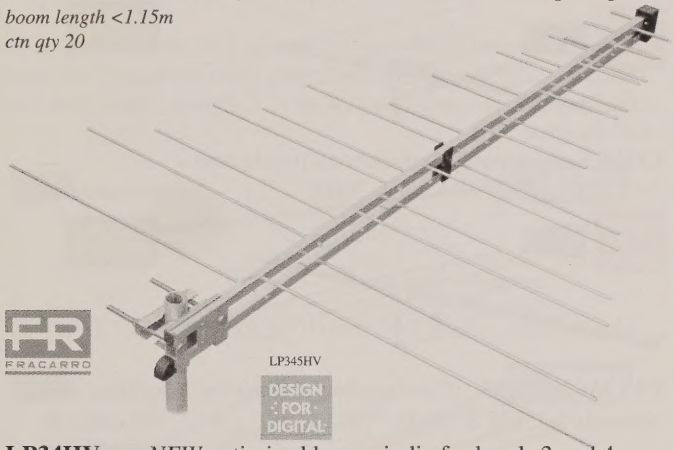
After 10 years of outstanding results in difficult reception areas all over Australia, we are ready for digital!

Fracarro use a balance of precision design and quality materials to produce a superior product, the only one that carries the distinctive FR trade mark and the first true Log Periodic antenna for television.

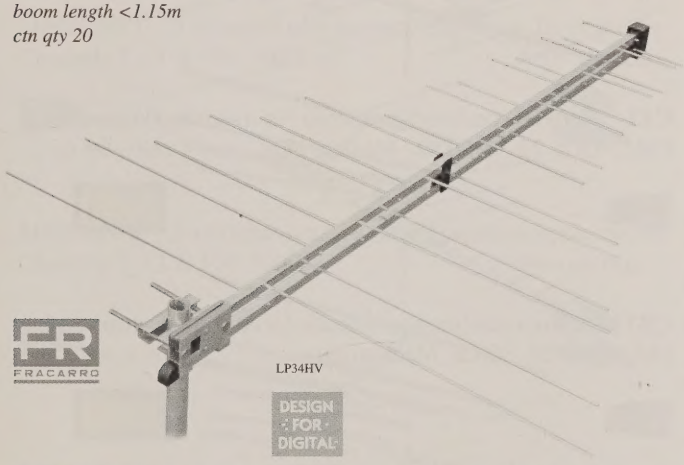
NEW mount suits 25 to 60mmØ masting and provides vertical polarity option at no extra cost!

Features include no loss cable connection, snap lock cap that keeps weather out permanently, secure dual vee block mount, black plastic components for long UV life and concealed cable inside boom.

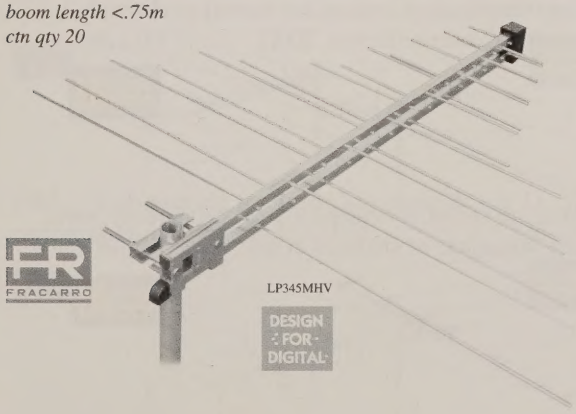
LP345HV 16 element true log periodic for Australian channels 6-12 & 28-69, natural 75Ω. *T30.+gR53.ig*
boom length <1.15m
ctn qty 20



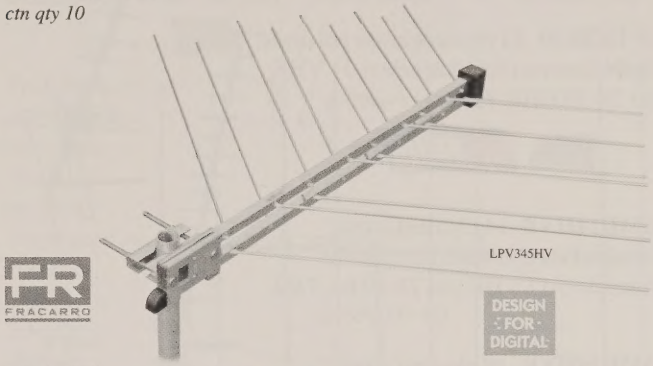
LP34HV *NEW* optimised log periodic for bands 3 and 4 only! Australian channels 6-12, 28-40, natural 75Ω. *T32.+gR57.ig*
boom length <1.15m
ctn qty 20



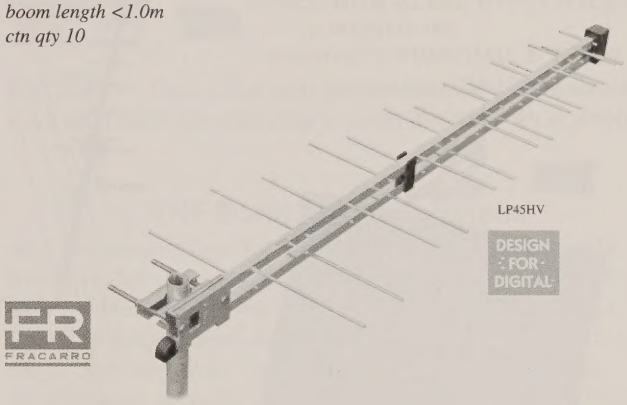
LP345MHV 15 element true log periodic for Australian channels 6-12 & 28-69, natural 75Ω. High performance, small size & lower price. *T27.+gR48.ig*
boom length <.75m
ctn qty 20



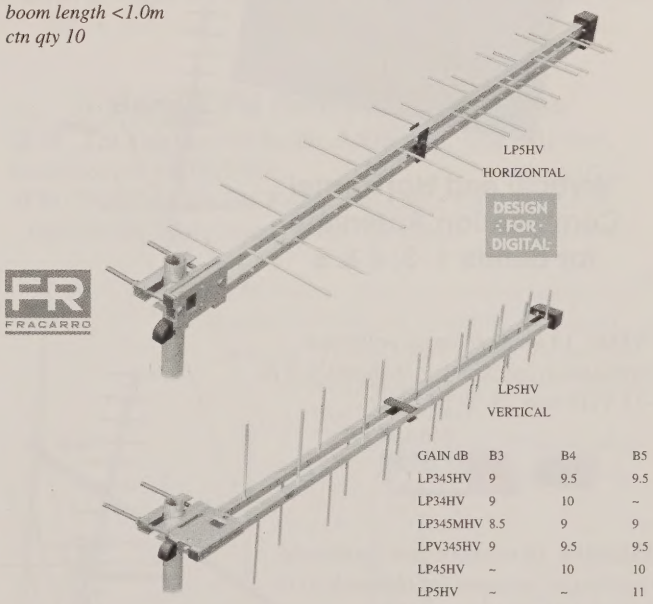
LPV345HV All aluminium, smaller size, Australian channels 6-12 & 28-69 modest band 1, natural 75Ω. Popular for mobile home and caravan use. *T33.+gR58.ig*
boom length <.65m
ctn qty 10



LP45HV 14 element true log for Australian channels 28-69, natural 75Ω. Ideal for digital or analogue TV. *T26.+gR46.ig*
boom length <1.0m
ctn qty 10

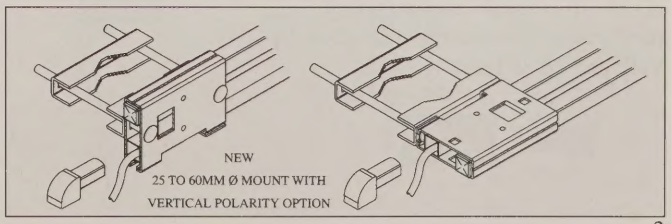


LP5HV 14 element log periodic for Au ch 40 to 69 / 900MHz, natural 75Ω. Suits CDMA phones too! *T26.+gR46.ig*
boom length <1.0m
ctn qty 10

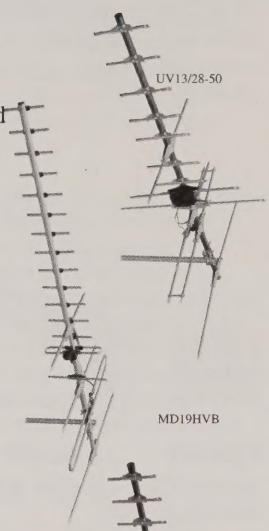


GAIN dB	B3	B4	B5
LP345HV	9	9.5	9.5
LP34HV	9	10	~
LP345MHV	8.5	9	9
LPV345HV	9	9.5	9.5
LP45HV	~	10	10
LP5HV	~	~	11

TechTip: *strong front to back ratio, flat frequency response across wide frequency ranges and better impedance match make FR Log Periodic antennas an excellent choice for Digital TV.*



Vertical and Horizontal Combination Antennas for bands 3, 4 & 5



UV13/28-50 13 element cross polarised combi. antenna for channels 6-11 VHF and 28-50 UHF, 75Ω. *T49.4+gR87.ig*

MMD14HVB 14 element cross polarised combination antenna for channels 6-11 VHF and 28-40 b4, 75Ω. *T54.95+gR97.ig*

MMD19HVB 19 element cross polarised combination antenna for channels 6-11 VHF and 28-50 b4, 75Ω. *T61.61+gR109.ig*

MMD14HV & MMD19HV 'C' versions with wide band UHF sections are available at the same prices.

Lacey's stock Combination Antennas for almost every purpose imaginable!

Vertical and Horizontal Combination Antennas for bands 1, 3, 4 & 5

UV16C 15 element cross polarised combination antenna for channels 1-3 & 6-11 VHF and 28-49 b4, 75Ω. *T58.+gR101.ig*

MMSH16 16 element cross polarised combination antenna for channels 1-11 VHF and 28-39 band 4, 75Ω. *T67.8+gR119.ig*

HV16 16 element cross polarised combination antenna for channels 1-11 VHF and 28-39 band 4, 300Ω. *T49.+gR86.ig*

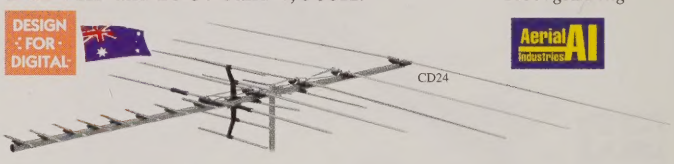
Combination VHF & UHF Antennas

EFD2F Large combination antenna for channels 2-12 VHF and 28-38 band 4, P.C.B. 75Ω balun and F connector. *T89.+gR156.ig*

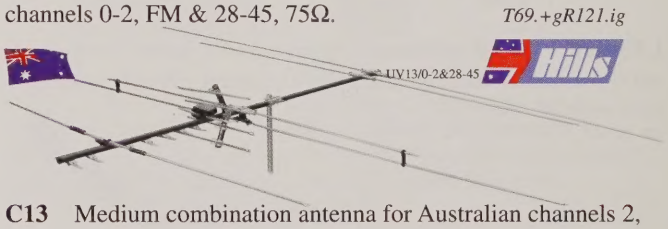
MMDC23A Large combi. for ch. 2-12 VHF and 28-38 band 4, F connector and integrated U/V mixer, 75Ω. *T109.9+gR193.ig*

CD15 Small combination antenna for channels 2-12 VHF and 28-37 band 4, 300Ω. *T39.+gR69.ig*

CD24 Large combination antenna for channels 2-12 VHF and 28-37 band 4, 300Ω. *T59.+gR104.ig*



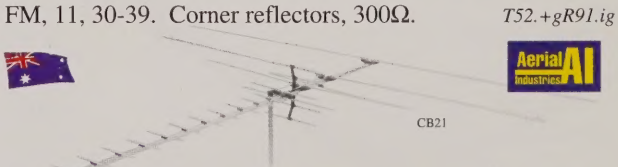
UV13/0-2&28-45 Combination antenna for Australian channels 0-2, FM & 28-45, 75Ω. *T69.+gR121.ig*



C13 Medium combination antenna for Australian channels 2, FM, 7-10 & 28-33. 300Ω. Medium gain. *T39.+gR69.ig*

CB11 Medium combination antenna for Australian channels 1, FM, 11, 30-39, 300Ω. Medium gain. *T39.+gR69.ig*

CB21 Large combination antenna for Australian channels 1, FM, 11, 30-39. Corner reflectors, 300Ω. *T52.+gR91.ig*

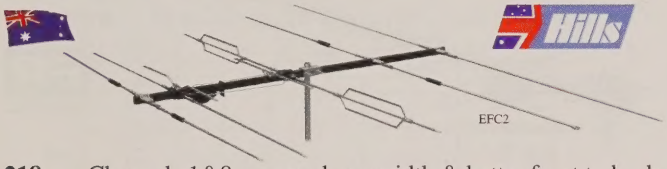


CW15 Medium combi. for channels 2-69, balun ready 300Ω. All rounder, regardless of channels in use. *T41.+gR72.ig*

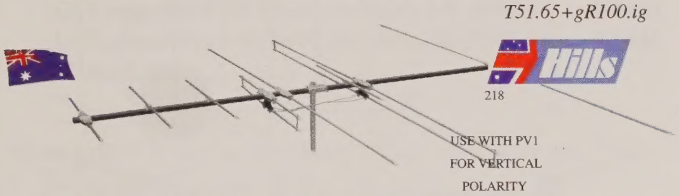
VHF Multiband Antennas

215/2710 VHF narrow beamwidth & good front to back ratio for front & rear anti ghost, med. gain, ch.2&7-10, 300Ω. Old Antiference design! ***TechTip.*** *Connect to front terminals.*
T53.75+gR95.ig

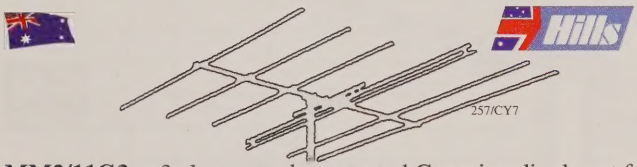
EFC2 Channels 1-11 & FM, 75Ω. High front to back ratio for rear anti ghost, low gain. An old favourite. *T95.5+gR168.ig*



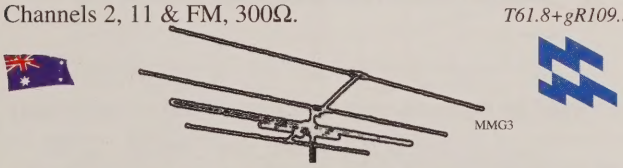
218 Channels 1&8, narrow beamwidth & better front to back ratio for front & rear anti ghost, medium gain, 300Ω. Another old Antiference design. ***TechTip.*** *Connect to front terminals.*
T51.65+gR100.ig



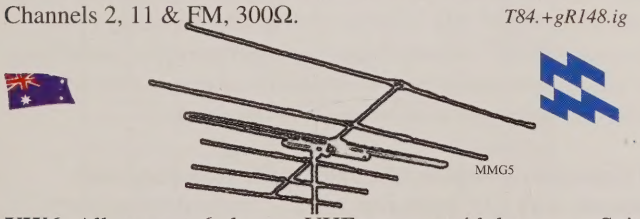
257/CY7 Channels 2 - 10 incl. FM, 300Ω. *T62.6+gR110.ig*



MM2/11G3 3 elements *plus* patented G section dipole cut for Channels 2, 11 & FM, 300Ω. *T61.8+gR109.ig*

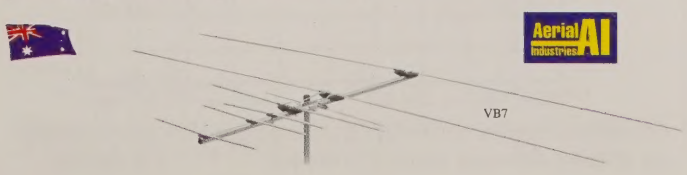


MM2/11G5 5 elements *plus* patented G section dipole cut for Channels 2, 11 & FM, 300Ω. *T84.+gR148.ig*



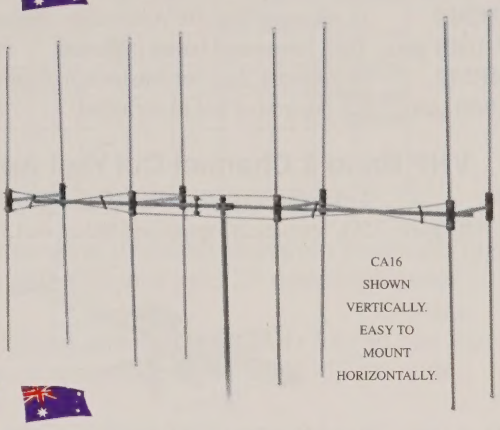
VW6 All purpose 6 element VHF antenna with low cost. Suits fringe area Digital and Analogue. Uses Log Periodic principles for good performance between channels 1-12, 300Ω.
T38.+gR67.ig

VB7 7 element cut for Australian channels 1 & 11, top VHF performance for fringe areas, 300Ω. *T36.+gR63.ig*



CA8 Channels 6-12, phased array. Extra capture area picks up signal where sometimes yagis fail, 300Ω. *T52.3+gR92.ig*
CA16 Channels 6-12, phased array antenna. Twice the CA8's elements for twice the gain (+3dB), 300Ω. *T88.5+gR156.ig*

TechTip. outstanding multipath ghost rejection when used to receive vertically polarised signals.



CAGL2 Gain Lifter adds performance on VHF low band to CA8 and CA16, for Australian channel 2. *T14.9+gR26.ig*

VHF Band 1 Yagi Antennas

4E2 4 element Yagi for Aust. channel 0, 6.5dB gain, 75Ω. Strong folded elements and optimised balun incl. *T106.+gR187.ig*
4E3 4 element Yagi for Aust. channel 1, 6.5dB gain, 75Ω. Strong folded elements and optimised balun incl. *T73.+gR128.ig*
5B 5 element Yagi for Aust. channel 2, 8dB gain, 75Ω. Strong folded elements and optimised balun incl. *T74.+gR130.ig*

TechTip: FR band 1 antennas offer a level of preformance that far exceeds that of combination and multi-band antennas.

Band 2 FM Radio Yagi Antennas

2FM 2 el.Yagi for FM Radio, 3.5dB gain, 75Ω. All band, optimised for 88-108MHz. *T41.+gR72.ig*
5FM 5 el. Yagi for FM Radio, 8dB gain, 75Ω. Dipole & balun as for 2FM. Strong folded elements. *T62.+gR109.ig*

TechTip: FM radio is often transmitted in a mix of Horizontal and Vertical or totally in Vertical polarity. Therefore mounting the antenna Vertically can give more consistent and less directional results. significantly lifting weaker stations signal levels.

TechTip: masting may de-tune vertically polarised antennas unless suitable length stand off brackets are used. Test for the ideal length!

VHF Band 3 Yagi Antennas

4E512 4 element Yagi for Australian channels 6-12, 5dB gain, 75Ω, integrated balun included. *T23.+gR40.ig*

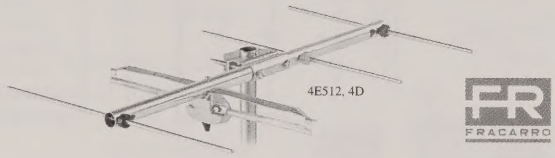
6E512 6 element Yagi for Australian channels 6-12, 5-7dB gain, 75Ω, integrated balun included. *T31.+gR55.ig*

11E512 11 element Yagi for Australian channels 6-12, 7-10dB gain, 75Ω, integrated balun included. *T70.+gR123.ig*

14E512 14 element Yagi for Australian channels 6-12, 10dB gain, 75Ω, integrated balun included. *T83.+gR146.ig*

VHF Band 3 Channel Cut Yagi Antennas

4D 4 element Yagi for Australian channel 6, 6.5dB gain, 75Ω, frequency optimised balun incl. *T26.+gR46.ig*



4E512, 4D

6D 6 element Yagi for Australian channel 6, 9dB gain, 75Ω, frequency optimised balun incl. *T36.+gR63.ig*

6E6 6 element Yagi for Australian channel 7, 9dB gain, 75Ω, frequency optimised balun incl. *T36.+gR63.ig*

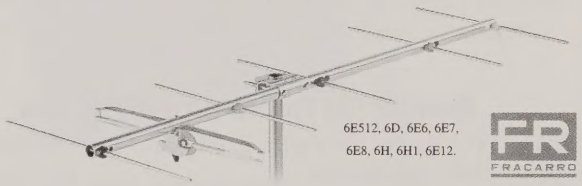
6E7 6 element Yagi for Australian channel 8, 9dB gain, 75Ω, frequency optimised balun incl. *T35.+gR62.ig*

6E8 6 element Yagi for Australian channel 9, 9dB gain, 75Ω, frequency optimised balun incl. *T35.+gR62.ig*

6H 6 element Yagi for Australian channel 10, 9dB gain, 75Ω, frequency optimised balun incl. *T34.+gR60.ig*

6H1 6 element Yagi for Australian channel 11, 9dB gain, 75Ω, frequency optimised balun incl. *T34.+gR60.ig*

6E12 6 element Yagi for Australian channel 12, 9dB gain, 75Ω, frequency optimised balun incl. *T34.+gR60.ig*



6E512, 6D, 6E6, 6E7, 6E8, 6H, 6H1, 6E12.

11D 11 element Yagi for Australian channel 6, 12dB gain,75Ω, frequency optimised balun incl. *T87.+gR153.ig*

11E6 11 element Yagi for Australian channel 7, 12dB gain, 75Ω, frequency optimised balun incl. *T86.+gR151.ig*

11E7 11 element Yagi for Australian channel 8, 12dB gain, 75Ω, frequency optimised balun incl. *T85.+gR150.ig*

11E8 11 element Yagi for Australian channel 9, 12dB gain, 75Ω, frequency optimised balun incl. *T84.+gR148.ig*

11H 11 element Yagi for Australian channel 10, 12dB gain, 75Ω, frequency optimised balun incl. *T83.+gR146.ig*

11H1 11 element Yagi for Australian channel 11, 12dB gain, 75Ω, frequency optimised balun incl. *T83.+gR146.ig*

11E12 11 element Yagi for Australian channel 12, 12dB gain, 75Ω, frequency optimised balun incl. *T83.+gR146.ig*

TechTip. a Fracarro channel cut antenna creates substantial improvements in gain, front to back ratio and beamwidth, providing results where other antennas fail.

11E512, 11D, 11E6, 11E7, 11E8, 11H, 11H1, 11E12.

UHF yagi 10 Element Antennas

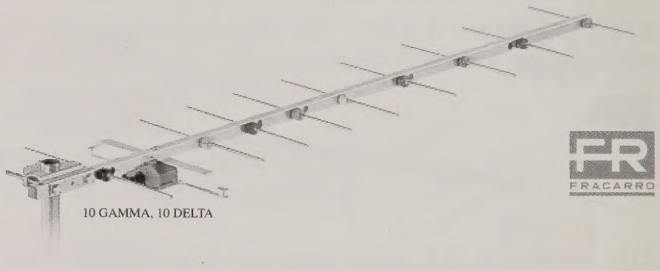
All the following antennas include a low loss P.C.B. balun.

10 GAMMA Ch. 20-31, 11dB gain, 20dB f/b ratio, 75Ω.

10 DELTA Ch. 24-36, 11dB gain, 20dB f/b ratio, 75Ω.

Narrow Bandwidth 10 element antennas with ±21° horizontal and ±26° vertical half power angles. *T19.+gR33.ig*

TechTip: identical to R models except for reflector, which reduces f/b ratio from 24dB to 20dB.



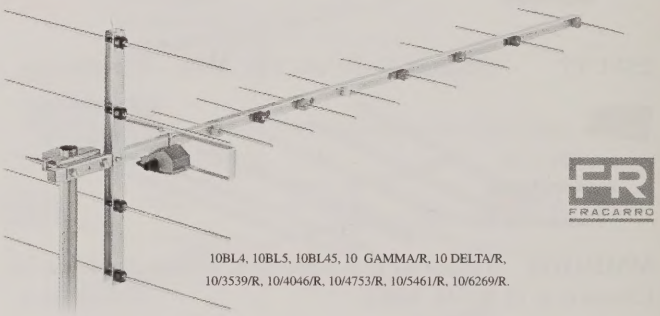
10 GAMMA, 10 DELTA

10BL45 10 el. B4&5, Aust. ch. 28-69, +6.5 - 9.5dB, 75Ω.

10BL4 10 el. B4, Aust. ch. 28-40, 8 - 11dB gain, 75Ω.

10BL5 10 el. B5, Aust. ch. 39-69, 8 - 11dB gain, 75Ω.

T21.+gR37.

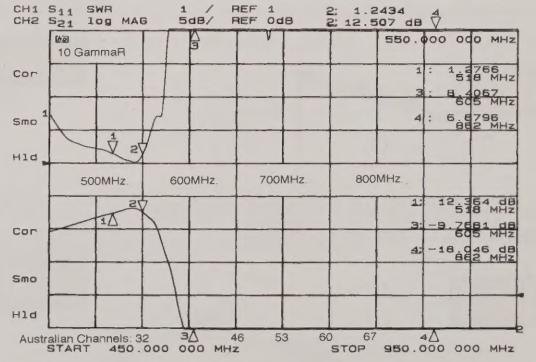


10BL4, 10BL5, 10BL45, 10 GAMMA/R, 10 DELTA/R, 10/3539/R, 10/4046/R, 10/4753/R, 10/5461/R, 10/6269/R.

TechTip: to assisit selecting a better UHF antenna, we have reproduced actual gain vs. frequency and S.W.R. sweeps for our narrow band Fracarro UHF antennas. Level shows in 5dB steps from a 0dB reference point 1 line up from the bottom. Gain is the lower trace. The result at each numbered marker is also shown in figures. Amateur radio operators have long understood the extra performance narrow bandwidth antennas offer, why should the television industry miss out any longer?

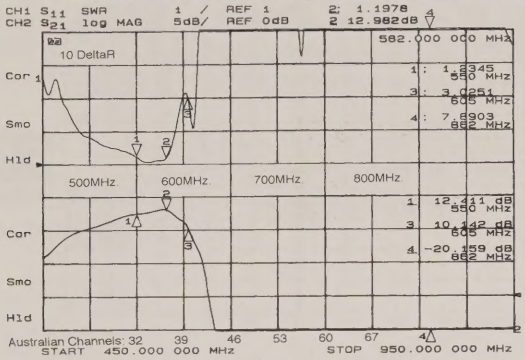
10 Gamma/R through to 10/6269/R are Narrow Bandwidth Antennas with ±21° horizontal and ±27° vertical half power angles. *T22.+gR39.ig*

10 GAMMA/R 10 el. Au ch. 20-31, +11dB, 24dB f/b ratio, 75Ω.

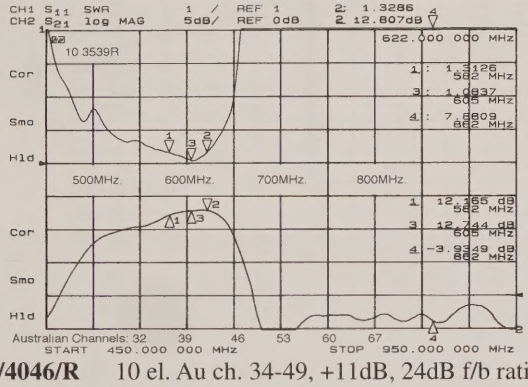


10 element narrow bandwidth antennas that allow you to choose an antenna with gain where it is needed. *T22.+gR39.ig*

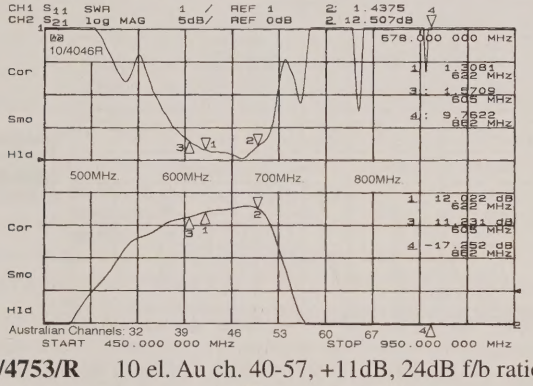
10 DELTA/R 10 el. Au ch. 24-36, +11dB, 24dB f/b ratio, 75Ω.



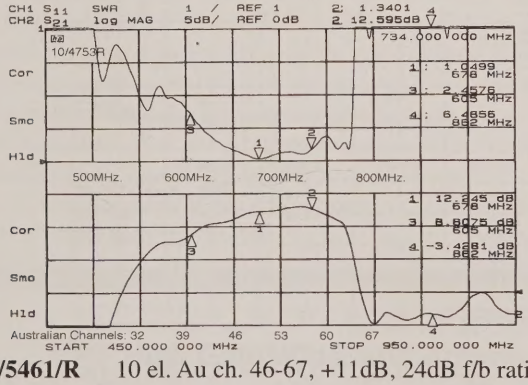
10/3539/R 10 el. Au ch. 28-42, +11dB, 24dB f/b ratio, 75Ω.



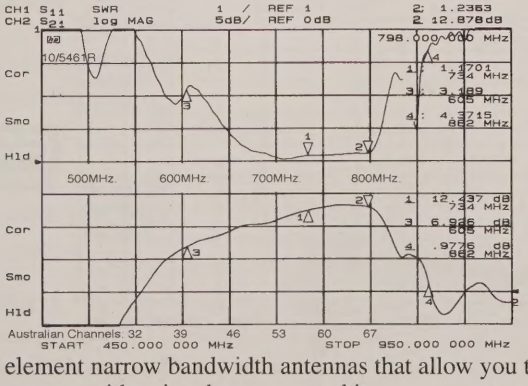
10/4046/R 10 el. Au ch. 34-49, +11dB, 24dB f/b ratio, 75Ω.



10/4753/R 10 el. Au ch. 40-57, +11dB, 24dB f/b ratio, 75Ω.

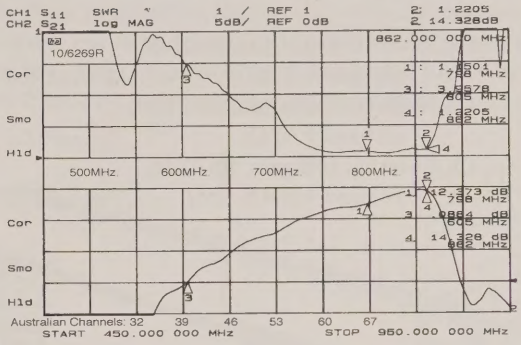


10/5461/R 10 el. Au ch. 46-67, +11dB, 24dB f/b ratio, 75Ω.



10 element narrow bandwidth antennas that allow you to choose an antenna with gain where you need it. *T22.+gR39.ig*

10/6269/R 10 el. Au ch. 55-75, +11dB, 24dB f/b ratio, 75Ω.

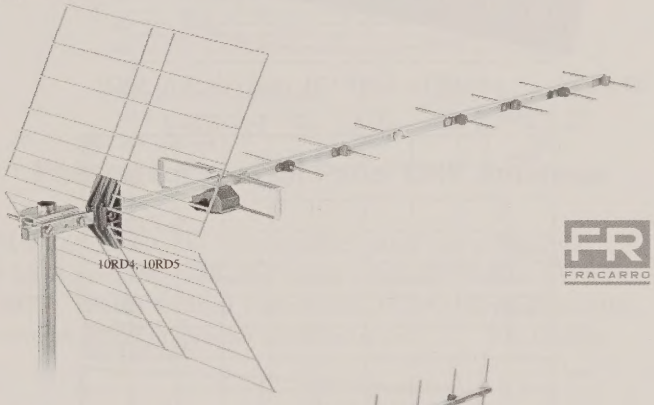


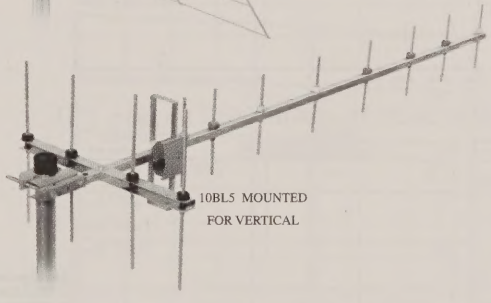
10 Gamma/R through to 10/6269/R are Narrow Bandwidth Yagi Antennas with ±21° horizontal and ±27° vertical half power angles. *T22.+gR39.ig*

10/860960 Special purpose 860-960MHz 7-9.5dB gain Yagi antenna, similar in appearance to 10/6269/R. *T25.+gR44.ig*

10RD4 B4 Ch.28-40, 9-11dB gain, 75Ω. *T27.+gR47.ig*
10RD5 B5 Ch.39-69, 9-11dB gain, 75Ω. *T27.+gR47.ig*

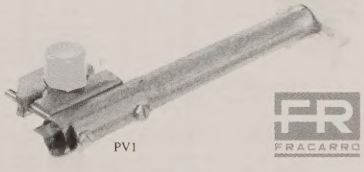
Corner reflectors improve anti-ghost performance and appearance of RD model antennas. F/b ratio 23dB.

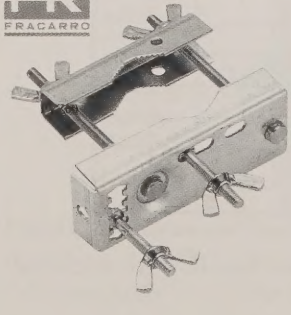




All FR 10 element antennas ship ready for vertical mounting.

PV1 Recommended for FR 20 element antennas as PVZ60 compromises the performance of these mid mount antennas. 280mm long for 210mm stand off, 25mm Ø, fits up to 42mm Ø mast *T4.2+gR7.ig*





PVZ60 Enables use of masting up to 60mmØ and or tilt of any FR 10 element UHF yagi or VHF antenna. *T5.5+gR10.ig*

TechTip. *tilt can help with vertical polarisation close to the transmitter due to the narrow vertical beamwidth of vertically mounted yagi antennas.*

Lacey's

UHF yagi 20 element Antennas

20BL4 Ch.28-40 10-13dB gain, f/b23dB, all band 4, 75Ω. *T31.+gR55.ig*

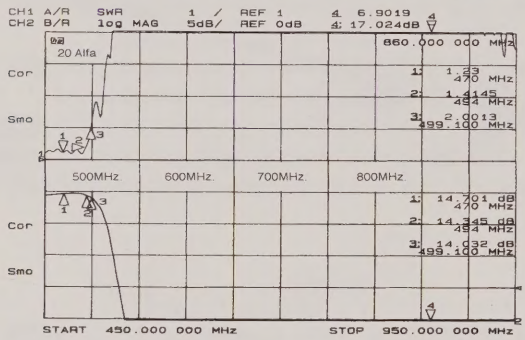
20BL5 Ch.39-69 10-13dB gain, f/b 22dB, all band 5, 75Ω. *T30.+gR53.ig*

20BL45 Ch.28-69 7-11dB gain, f/b 22dB, all band 4 and 5, 75Ω. *T30.+gR53.ig*

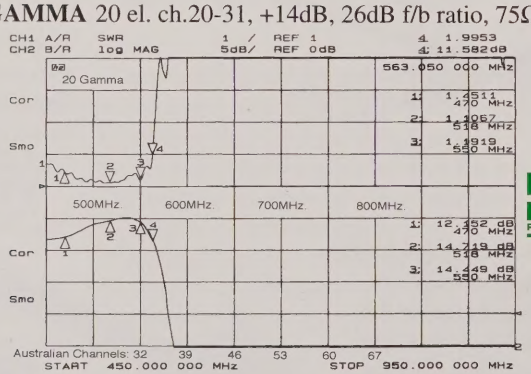
20BL4, 20BL5, 20 ALFA, 20 GAMMA, 20 DELTA, 20/3539, 20/4046, 20/4753, 20/5461, 20/6269.

Thundering Performance!

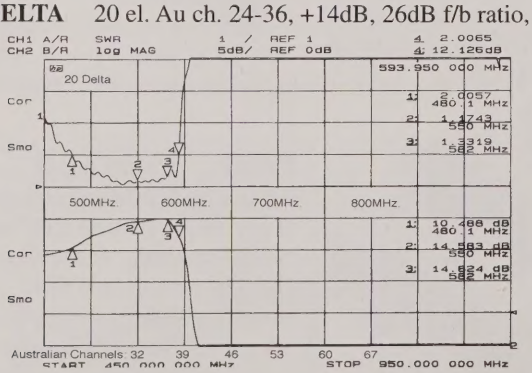
20 ALFA +14dB for UHF CB, nice match to 50Ω!



20 GAMMA 20 el. ch.20-31, +14dB, 26dB f/b ratio, 75Ω

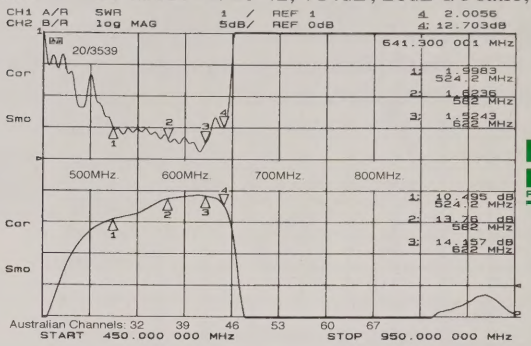


20 DELTA 20 el. Au ch. 24-36, +14dB, 26dB f/b ratio, 75Ω

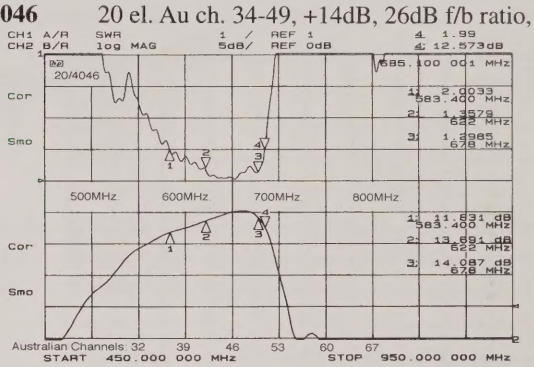


20 element narrow bandwidth antennas that allow you to choose an antenna with gain where you need it. *T34.+gR60.ig*

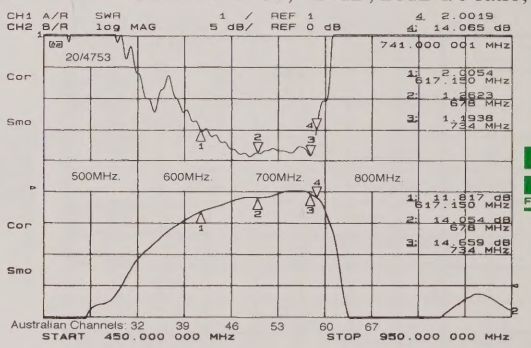
20/3539 20 el. Au ch. 28-42, +14dB, 26dB f/b ratio, 75Ω



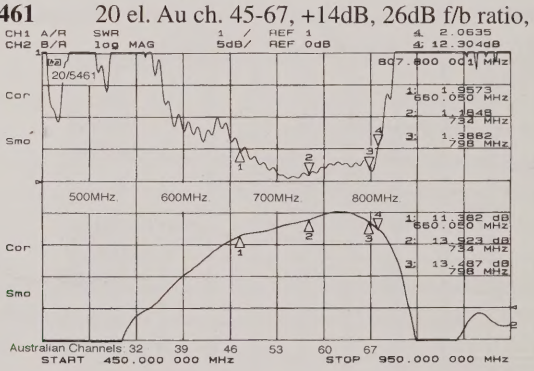
20/4046 20 el. Au ch. 34-49, +14dB, 26dB f/b ratio, 75Ω



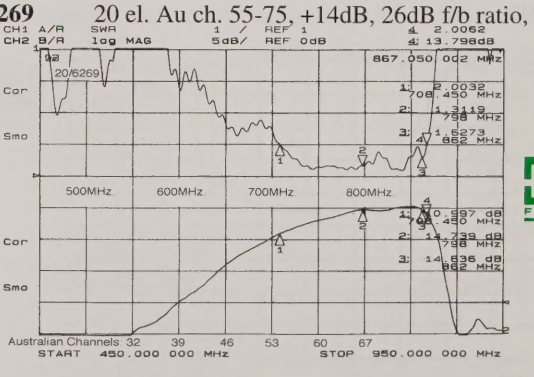
20/4753 20 el. Au ch. 40-57, +14dB, 26dB f/b ratio, 75Ω



20/5461 20 el. Au ch. 45-67, +14dB, 26dB f/b ratio, 75Ω



20/6269 20 el. Au ch. 55-75, +14dB, 26dB f/b ratio, 75Ω

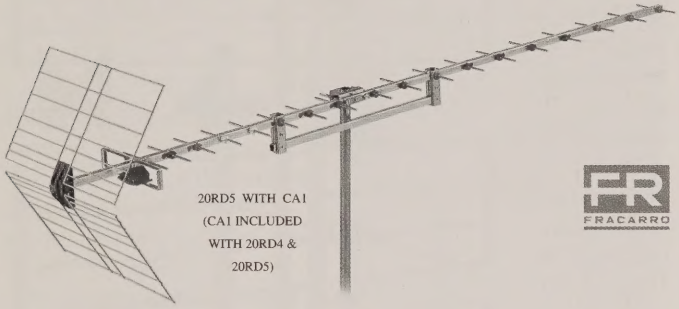


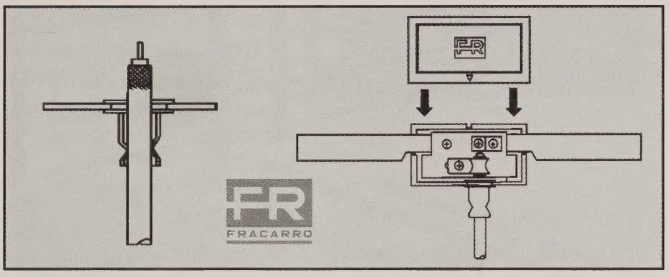
20 element narrow bandwidth antennas that allow you to choose an antenna with gain where you need it. *T34.+gR60.ig*

CA1 Boom Support, improves physical strength of FR 20el. antennas. As shown in 20RD5 picture below. *T6.3+gR11.ig*

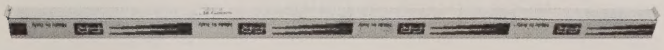
TechTip: *CA1 is an option recommended for models 20BL4, 20 Alfa, 20 Gamma, & 20 Delta that improves physical strength.*

20RD4 Au ch.28-40, +10-13dB gain, f/b 25dB, 75Ω.
20RD5 Au ch.39-69, +11-14dB gain, f/b 26dB, 75Ω.
Corner reflectors improve anti-ghost performance and looks, CA1 boom support included. *T41.+gR.72.ig*





TechTips: *FR 20 element yagis are designed to mount in the middle. Element spacing is adjusted around the mount to allow for up to 42mm Ø masting without performance compromise.*
INSTALL *the FR logo mark on Fracarro UHF yagi dipoles face down to ventilate balun and eliminate water build up.*
EXTEND ANTENNA LIFE *by treating balun and terminals against environmental attack with RF661 Circuit Board Lacquer. (page 27) 1/ Dismantle dipole, mask contact points and spray the* back side *of p.c.b. balun. 2/ Re-assemble once coating is dry. 3/* After *cable is fitted, spray the exposed side of p.c.b. including terminals. This coating increases the life of plastic and aluminium in a corrosive environment and even protects aluminium braid coax from atmospheric attack.*
PACKAGING: *Fracarro yagi antennas (pages 6-9) ship in compact knock down cartons that save on shipping costs, van space, and are straightforward to assemble. Cartons about the size of a 36W fluorescent tube contain one UHF antenna.*

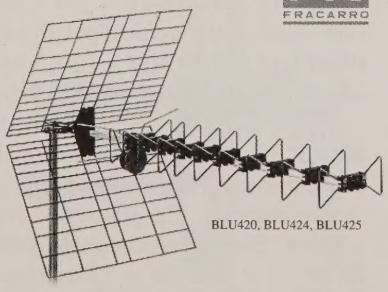


UHF High Gain Wideband Antennas

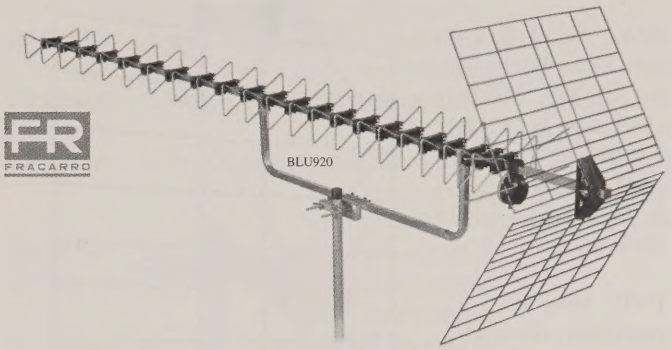
BLU420
42 el. ch. 28-69,
10-14dB gain, 75Ω.
T49.+gR86.ig

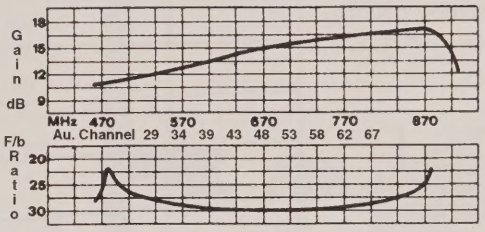
BLU424
42 el. ch. 28-40,
12-14dB gain, 75Ω.
T52.+gR92.ig

BLU425
42 el. ch. 39-69, 13-15dB gain, 75Ω.
T49.+gR86.ig



BLU920 90 element ch. 28-69, 11-18dB gain, f/b 27dB 75Ω. Easy to assemble, large corner reflectors enhance ghost rejection. For weak signals PBU amplifier fits inside dipole (see page 36). Extra physical strength withstands high wind load. Over 2.4m long, a surprisingly good performer. *T89.+gR157.ig*

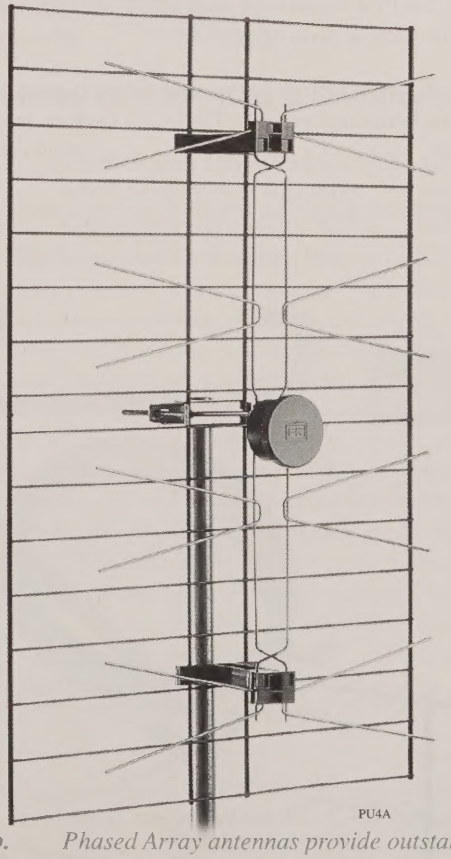




Horizontal -3dB point	±17°	±15°	±10°
@Frequency of Mhz.	470	650	862

Phased Array / Flat Panel UHF Antennas

PU4A Ch.28-69, PBU preamplifier option (see p.36), 75Ω. 9-14dB gain, f/b>18dB, half power angle @650MHz. ±33.5°H ±20°V. Thanks to larger capture area, PU4A will drag in a little bit more signal in difficult reception areas. *T38.+gR63.ig*



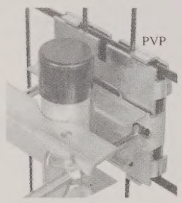
TechTip. *Phased Array antennas provide outstanding rejection of multipath reflected signal when receiving vertically polarised signals (and the antenna is mounted vertically).*

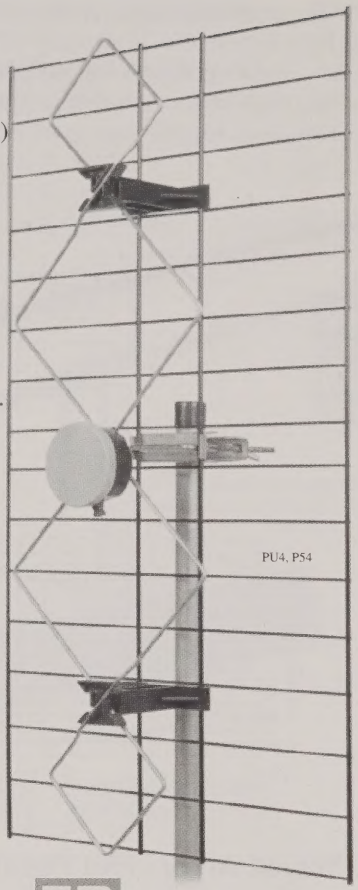
Phased Array Antennas

PU4 Ch.28-69, 75Ω. 9-12dB gain, f/b>22dB, -3dB point @650MHz. ±33.5°H ±20°V, PBU preamp. option (See p. 36) *T29.+gR51.ig*

P54 Ch.39-69, as PU4 with better B5 antighost. 9-12dB gain, f/b>24dB, -3dB point @650MHz. ±35°H ±20°V PBU preamp. option (p.36) fits in terminal box. *T29.+gR51.ig*

PVP Vertical polarisation bracket permits vertical polarity installation of PU4, P54, and PU4A. *T3.+gR6.ig*





FRACARRO

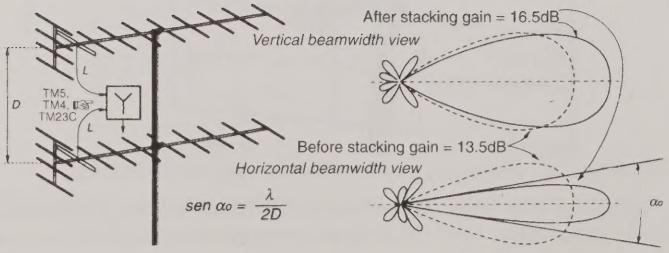
PU8H 2 x PU4 factory pre-assembled with stacking bar and coupler for horizontal polarity. *T89.+gR157.ig*

PU8V 2 x PU4 factory pre-assembled with stacking bar and coupler for vertical polarity. *T89.+gR157.ig*

PU16H 4 x PU4 factory pre-assembled with stacking bar and coupler for horizontal polarity, Optimum capture area for diffused signal. *T149.+gR262.ig*

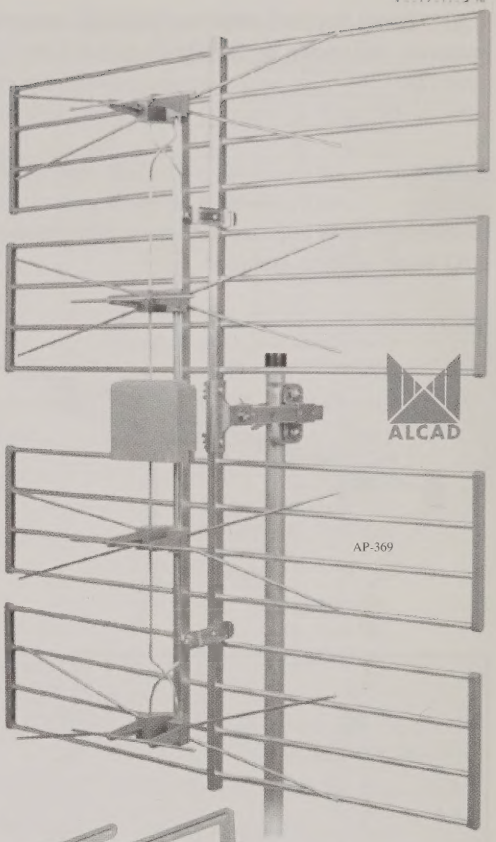
PU8H, PU8V AND PU16 ARE PRE-ASSEMBLED WITH WHITE COAX CABLE!

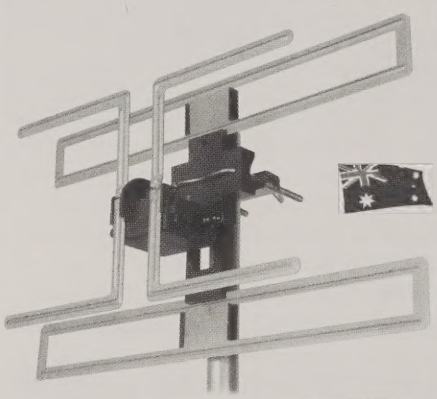
TechTip. stacking two antennas doubles the signal voltage, i.e. an extra 3dB. Four antennas stacked gives an extra 6dB. Stacking reduces the beamwidth by similar amounts and can reduce multipath ghosting, although narrow beamwidth necessitates stable mount to eliminate fading from antenna movement in wind. The extra capture area stacking provides can further increase the level of signals that have become refracted or diffused passing through trees or over hills. Almost any antenna can be stacked using Fracarro stacking couplers as shown on page 18. Stacking using balun pre-amplifiers (see page 36) in each antenna may provide a further lift from the noise, although careful attention to cable lengths is necessary to ensure amplifier noise does not add.



AP-369

Ch. 28-69, directors sharpen up beamwidth and increase gain. *New* mounting bracket suits masting from 20 to 60mmØ, and simplifies use with vertical polarity. Optional BR105 or BR103 preamplifier fits inside balun (see page 36). Up to 13.5dB gain with 20dB front to back ratio. *T62.+gR109.ig*





Phaselink

Low cost antennas for UHF and VHF. Some models include built in signal amplifier and VHF diplexer. Amplified models ship complete with power supply. Knock down packs ship in trade pack of 5 (prices each) to minimise shipping costs.

PL10 B4&5, the original Phaselink. A low cost UHF antenna that works! *T19.+gR33.ig*

PL10D B4&5, as PL10 with integrated VHF diplexer of low loss. *T24.+gR42.ig*

PL30D B4&5, integrated 20dB amplifier and supply and VHF diplexer. *T62.+gR109.ig*

PL10 6-11 B3,4&5 Horizontal and or Vertical polarity mix with integrated diplexer. *T52.+gR92.ig*

PL30 6-11 B3,4&5 with integrated 20dB amp and supply, Horizontal and/or Vertical polarity mix. *T94.+gR165.ig*

PL10 1-11 / PL10 2-11 B1,3,4&5 with diplexer and optional Horizontal and/or Vertical polarity mix. *T57.+gR100.ig*

PL30 1-11 / PL30 2-11 B1,3,4&5 with integrated 20dB amp and supply, Horiz. and/or Vertical polarity mix. *T97.+gR171.ig*

RV30R Improved VHF and UHF amplified antenna with new telescopic VHF elements. Integrated amplifier and separate supply included. The physically small, one antenna fits all solution. Ships in retail carton (as shown). *T82.+gR144.ig*

RV30 RV30R in 5 Trade pack, price ea. *T79.+gR139.ig*

Set Top Antennas

TVTA Set Top Indoor telescopic antenna. Retail ready in attractive colour *BLISTER PACK* with dummy-proof instructions. Each element extends to 750mm. 900mm of 75Ω coax and PAL plug. Weighted base increases stability!
T8.+gR14.ig

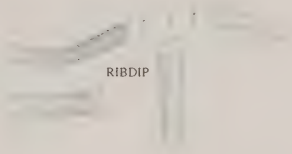
TVTA

SBSA Set Top telescopic antenna. Designed to clip into the bracket in the back of many mid sized TV's. Each element extends to 980mm in length. Complete with 750mm antenna feeder. BT1 balun (excluded) required to complete 75Ω connection. Colour printed *BLISTER PACK* with instructions and Bar Code included.
T8.+gR14.ig

SBSA

BTSA Bow Tie antenna. A simple but effective set back antenna, complete with over 500mm of 300Ω ribbon. *T2.1+gR4.ig*

RIBDIP 300Ω folded dipole antenna 1.5m wide with over 1.8m of feeder terminated with spade lugs. Intended for FM radio, is this the longwire TV antenna? *T2.1+gR4.ig*

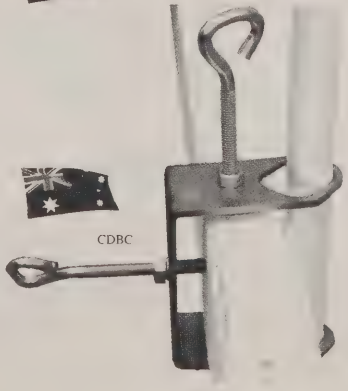


Caravan Antenna Mounts

CDBC Permits fix of mast to drawbar, the strongest structure in a caravan. Fits as per photo. *T12.5+gR22.ig*

CEM 3.6
Telescopic mast, extends to 3.6m. Aluminium. Twist to lock at preferred height. *T22.+gR39.ig*

CEM 4.8
Telescopic mast, extends to 4.8m. Aluminium. Twist to lock at preferred height. *T29.+gR51.ig*



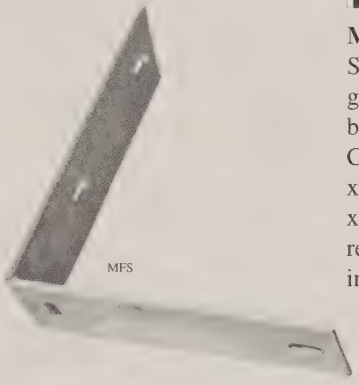
MOUNTING HARDWARE

Curved Fascia Brackets

CFB1212 1.2m x 1.2mm wall & 5mm plate *T7.9+gR14.ig*
CFB1512 1.5m x 1.2mm wall & 5mm plate *T9.65+gR17.ig*
CFB1812 1.8m x 1.2mm wall & 5mm plate *T10.75+gR19.ig*
CFB1816 1.8m x 1.6mm wall & 5mm plate *T13.05+gR23.ig*
CFB2716 2.7m x 1.6mm wall & 5mm plate *T21.5+gR38.ig*

PM1816 Pole Mount 1.8m x 1.6mm wall as CFB with mtg plate at 90° to CFB or vertical. *T13.05+gR23.ig*
All 25mm Ø pipe, hot dip galvanised for long life.

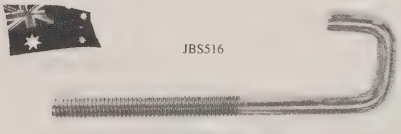
TechTip. Prevent Fascia Board Sag by securing inside of facia bracket with a 65mm long coach screw through the fascia board into a rafter, and a 40mm long screw into the other hole.

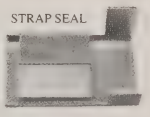


MFS Metal Fascia Support, Hot Dip galvanised. Secures fascia bracket to metal fascia. Cup Square Bolts 3/8" x2" x2, nuts & washers and 2 x coach screws to fix return to rafter not included. *T9.75+gR17.*

Chimney Bracket Kits & Components

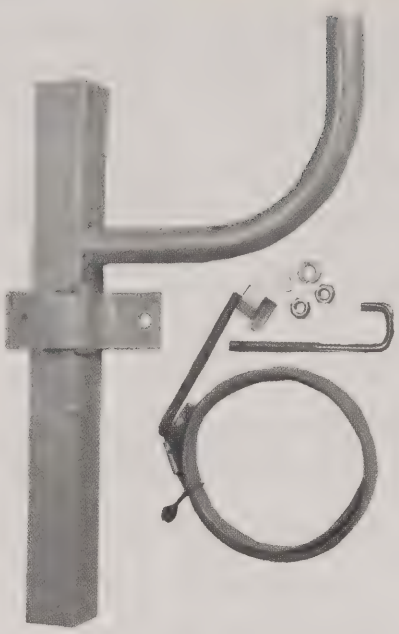
JBS516 J Bolt Square 100 x 25mm x 5/16" *T.65+gR1.2ig*
JBSS J Bolt Strap & Seal Assembly *T6.8+gR12.ig*
CS1918 Coiled strap only, 19mm x 18m *T16.45+gR29.ig*
STRAP SEAL Locks chimney strap *T.25+gR.50ig*



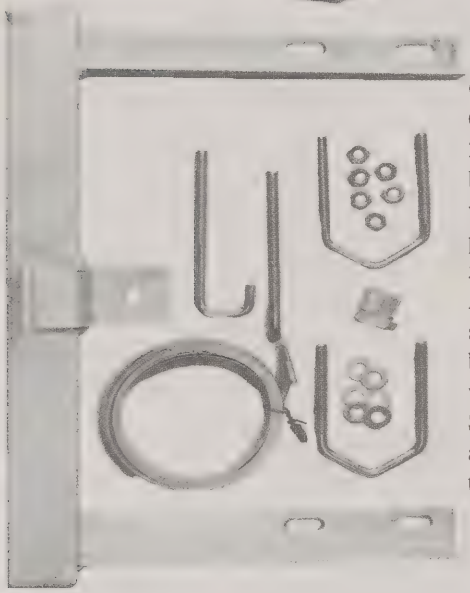


CFB1512 ETC.

TechTip.
a practical way to extend the UV life of any weather exposed plastic is to paint it. A light coat from a spray can of any colour can help, and a clear coating like RF661 Circuit Board Lacquer can have a suprisingly positive effect. Test compatability of paint and plastic before use!

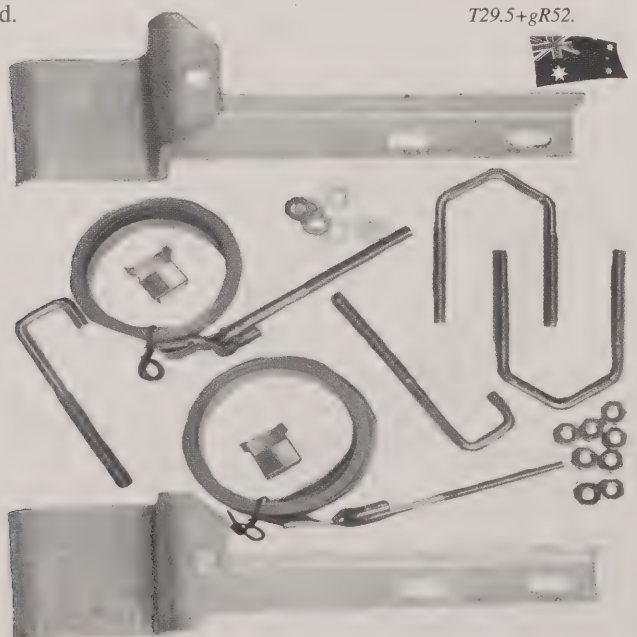


CCBKIT Curved Chimney Bracket Kit, 1.8m. Low cost complete chimney mount, with strap presealed to 5/16" J bolt, separate J bolt, strap seal, nuts & washers are provided.
T22.65+gR38.ig



CBK12 Hot Dip Galvanized bracket, 320mm between U bolts. Complete with strap, one end pre-sealed to a 5/16" J bolt. Another J bolt, strap seal, 5/16" U bolts, nuts & washers included. Supports 2 big antennas on mast up to 2.4m.
T18.75+gR33.

CBK6 Two individual brackets, each with their own strap, one end pre-sealed to a 5/16" J bolt. Additional J bolts, strap seals, 5/16" U bolts, nuts & washers are provided. Allows brackets to be fitted as far apart as practical to better spread the load. *T29.5+gR52.*

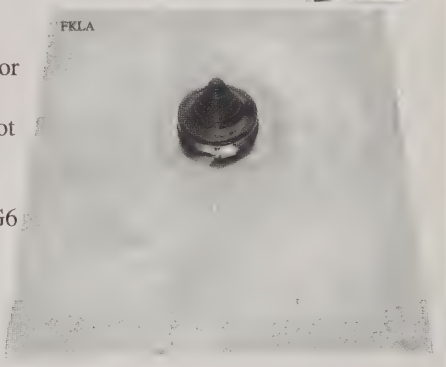


Masting Galvanised

M1825	1.8m x 25mmØ (6'x1")	*T6.1+gR11.ig*
M1832	1.8m x 32mmØ (6'x1&1/4")	*T8.2+gR14.ig*
M2425	2.4m x 25mmØ (8'x1")	*T9.25+gR16.4ig*
M2432	2.4m x 32mmØ (8'x1&1/4")	*T10.75+gR19.ig*
M3032	3.0m x 32mmØ (10'x1&1/4")	*T14.+gR25.ig*
M3632	3.6m x 32mmØ (12'x1&1/4")	*T16.3+gR29.ig*
M4532	4.5m x 32mmØ (15'x1&1/4")	*T21.5+gR38.ig*
M4538	4.5m x 38mmØ (15'x1&1/2")	*T26.25+gR46.ig*
M7332	7.3m x 32mmØ (24'x1&1/4")	*T32.55+gR57.ig*
M73476	7.3m x 47.6mmØ (24'x1&7/8")	*T55.65+gR98.ig*
TM20	6m (20') 2 piece telescopic mast	*T49.53+gR87.ig*
TM30	9m (30') 3 piece telescopic mast	*T78.55+gR138.ig*
TM40	12m (40') 4 piece telescopic mast	*T110.25+gR194.ig*
TM50	15m (50') 5 piece telescopic mast	*T138.6+gR244.ig*

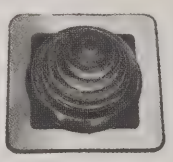
Don't forget **TMA20**, **TMA30**, **TMA40**, or **TMA50** telomast accessory pack required for each telomast.

Flashing Products



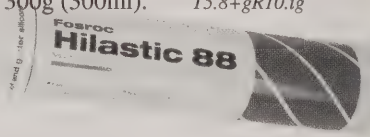
FKLA Designed for antennas, lead tile 410x490mm& boot for masting to 50mmØ includes cable entry for RG6 or RG59. Carefully fitted, replaces a tile.
T21.5+gR38.

FKZ Zinc tile 460 x 520mm with vulcanised EPDM boot for masting 25 to 100mm Ø. An environmentally friendly solution, secure FKZ with silicone. *T27.+gR48.*



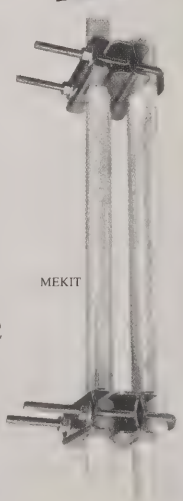
AQUASEAL1 EPDM flash for up to 63mm Ø masting on a steel or tile roof. Shapes easily to roof profile for good weather seal with silicone. *T8.3+gR15.ig*

SILPRG Silicone, plumbers roof & gutter, translucent, non acetic cure, Fosroc 300g (300ml). *T5.8+gR10.ig*



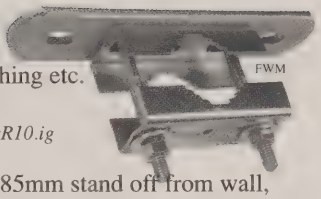
Special Mounts

ME900 .9m mast extension, galvanised *T8.5+gR14.ig*
ME1200 1.2m mast extension, galvanised *T9.08+gR16.ig*
ME1500 1.5m mast extension, galvanised. *T10.75+gR19.ig*
ME1800 1.8m mast extension, galvanised. *T12.5+gR23.ig*

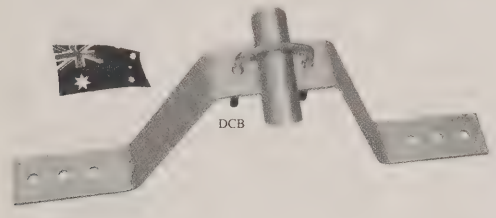


MEKIT Mast Extension Kit. 2 x long 140mm U bolts with 6 vee blocks, nuts & washers. Allows masting to be fitted side by side for extra height. *T8.5+gR15.ig*

FWM Flat Wall Mount. Two will fix masting to wall with less than 5mm overhang from flashing etc. Complete with 2 x vee blocks. *T5.7+gR10.ig*



DCB D Clamp Bracket. 185mm stand off from wall, 393mm between 10mmø mounting positions with options 30mm either side. H.D. Galvanised, U bolt & nuts incl. *T19.8+gR35.ig*



RM1816 Rafter Mount 1.8m (6') x 25mm Ø mast. Bolts to rafter, etc. Use FKLA or Aquaseal to weatherproof. *T14.5+gR26.ig*

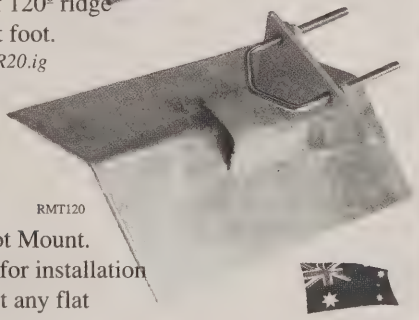
RM2716 Rafter Mount 2.7m (9') x 25mm Ø. Bolts to rafter, etc. Stay bar or guy wire support required. *T21.5+gR38.ig*

UEM2 Under Eave Mount 2m x 25mm Ø mast for metal fascias etc. Option that does not interfere with roof surface. *T16.5+gR29.ig*

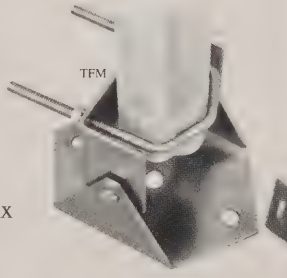
Mast Feet

RMI Ridge Mount Iron. Iron roof ridge cap mast foot. *T9.95+gR17.ig*

RMT120 Ridge Mount Tile. Tile roof 120º ridge cap mast foot. *T11.35+gR20.ig*



TFM Telo Foot Mount. Swivels for installation to almost any flat surface regardless of angle. 12mm fixing holes 100mm apart. *T11.1+gR20.ig*

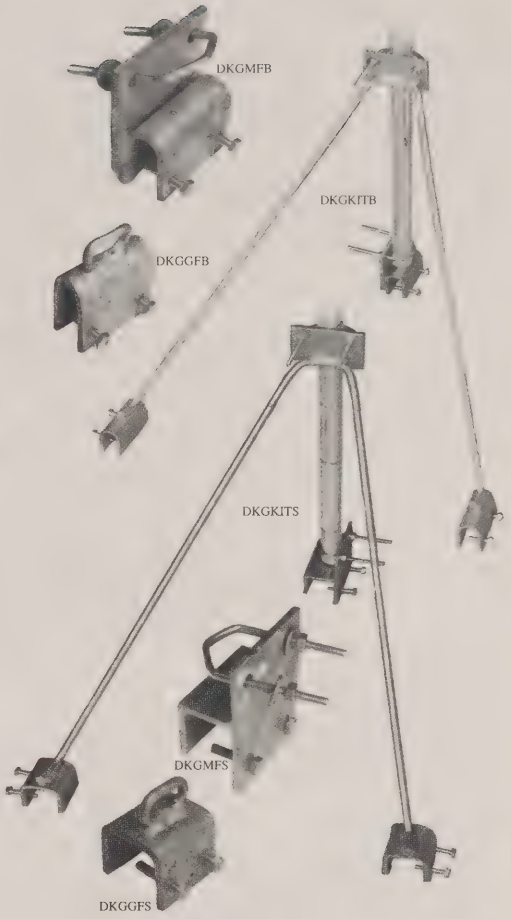


LARM Light Angle Roof Mount 27 x 9cm. Fix to rafter with coach screws etc. 12mm fixing holes 115 & 200mm apart. *T9.25+gR15.ig*

Cliplock Decking Brackets

DKG KIT B Decking Kit Brownbuilt. Fits steel deck roofing with Narrow ribs. *T24.15+gR43.ig*

DKG KIT S Decking Kit Stramit. Fits steel deck roofing with Wide ribs. *T24.15+gR43.ig*

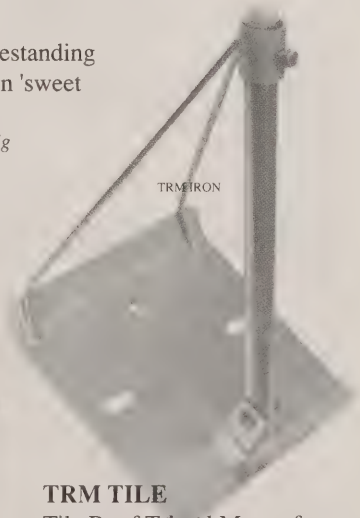


DKG MF B Decking Mast Foot Bownbuilt. *T8.9+gR16.ig*
DKG MF S Decking Mast Foot Stramit. *T8.9+gR16.ig*
DKG GF B Decking Guy Foot Brownbuilt. *T7.+gR12.ig*
DKG GF S Decking Guy Foot Stramit. *T7.+gR12.ig*

Tripod Roof Mounts

TRM IRON Iron Roof Tripod Mount for freestanding fitting of lightweight antennas in 'sweet spots'. Includes 1.2m mast. *T21.+gR37.ig*

TechTip. SILPRG silicone along tops of corrugated iron ribs and closing top edge of tripod improves TRM IRON security and reduces dirt build-up that aggravates corrosion.



TRM TILE Tile Roof Tripod Mount for freestanding fitting of lightweight antennas in 'sweet spots'. Includes 1.2m mast. Holes allow for fixing to batten with roofing screws etc. *T21.+gR37.ig*

TechTip. Weatherproof and improve security of installation with SILPRG. silicone

Tripod Roof Mounts (continued)

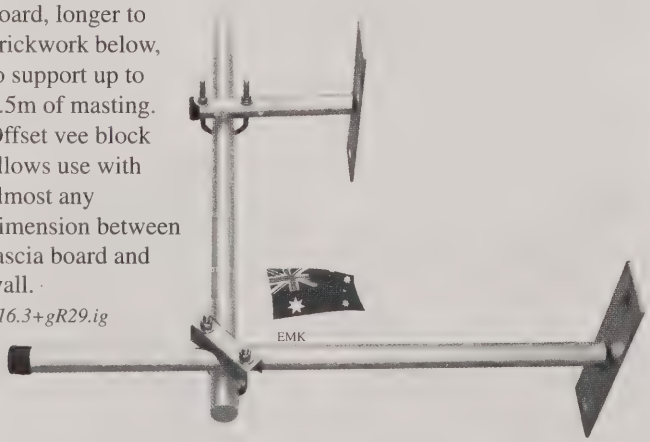
TRITILE
New tripod mount for tile roofs. Mounting feet screw directly into batten and rafter. Kit includes 1.2m 25mmØ mast, 2 x 1.2m stay bars, 2 x stay bar clamps, 3 x batten mount feet, fixing screws, bolts nuts and washers. *T27.+gR48.ig*

TechTip. Protect lightly plated nuts, bolts and exposed steel against corrosion by spraying with paint, silicone. Any colour to any application.

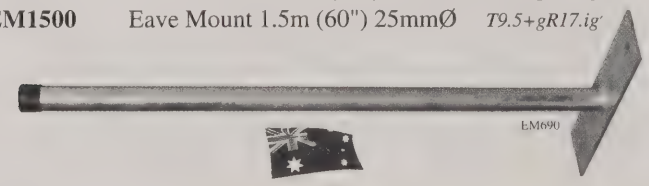
Unsure how to mount your antenna? Ask us, advice is free!

Eave Mounts

EMK Eave Mount Kit Complete. 1 x 230mm (9") x 25mmØ eave bracket, 1 x 690mm (27")x 25mmØ eave bracket, 2 x 5/16" U bolts, nuts, washers & 1 x offset vee block. Short bracket fixes to fascia board, longer to brickwork below, to support up to 4.5m of masting. Offset vee block allows use with almost any dimension between fascia board and wall. *T16.3+gR29.ig*

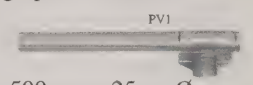


EM230	Eave Mount 230mm (9") 25mmØ	*T5.65+gR10.ig*
EM280	Eave Mount 280mm (11") 25mmØ	*T5.65+gR11.ig*
EM460	Eave Mount 460mm (18") 25mmØ	*T6.8+gR12.ig*
EM690	Eave Mount 690mm (27") 25mmØ	*T7.9+gR14.ig*
EM1020	Eave Mount 1.02m (40") 25mmØ	*T8.5+gR15.ig*
EM1500	Eave Mount 1.5m (60") 25mmØ	*T9.5+gR17.ig*



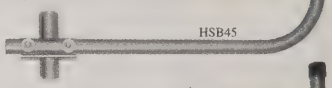
Stand-off & Stacking Brackets

PV1 Vertical Polarisation Bracket 280mm x 25mmØ, gives 210mm stand off. Fits masting up to 42mmØ. *T4.20+gR7.ig*

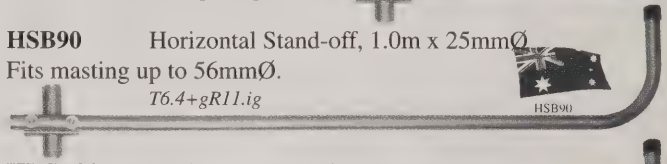


PV2 Vertical Polarisation Bracket 500mm x 25mmØ, gives 460mm stand off. Fits masting up to 56mmØ. *T6.3+gR11.ig*

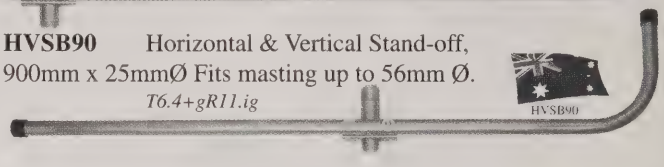
HSB45 Horizontal Stand-off, 450mm x 25mmØ. Fits masting up to 56mmØ. *T5.4+gR10.ig*



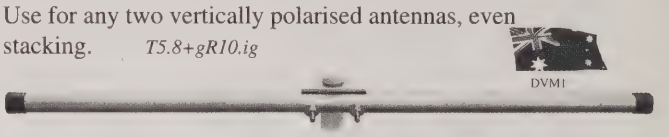
HSB90 Horizontal Stand-off, 1.0m x 25mmØ. Fits masting up to 56mmØ. *T6.4+gR11.ig*



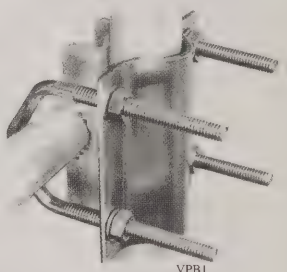
HVSB90 Horizontal & Vertical Stand-off, 900mm x 25mmØ Fits masting up to 56mm Ø. *T6.4+gR11.ig*



DVM1 Double Vertical Mount, 1mx 25mmØ. Use for any two vertically polarised antennas, even stacking. *T5.8+gR10.ig*



VPB1 Vertical Mount Assembly, support for up to 32mmØ crossbar. The strongest crossbar support of it's kind. *T7.15+gR13.ig*



Stacking Bars

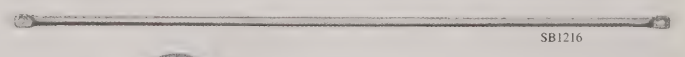
BH550 Bullhorn Horn 550mm x 25mmØ. For two antennas to be fitted 550mm. apart at the same height. For stacking of UHF antennas for +3dB extra gain. *T9.05+gR16.ig*

BH900 Bullhorn Horn 900mm x 25mmØ. As BH550 with mounting bracket centres 900mm apart. *T10.5+gR18.ig*

Both fit masting up to 56mmØ

Stay Bars & Collars

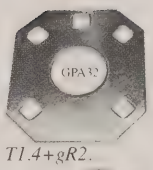
SB0416	Stay Bar .46m (1'6") x 16mmØ	*T4.05+gR7.ig*
SB1216	Stay Bar 1.2m (4') x 16mmØ	*T4.9+gR9.ig*
SB1816	Stay Bar 1.8m (6') x 16mmØ	*T6.5+gR11.ig*
SB2416	Stay Bar 2.4m (8') x 16mmØ	*T7.5+gR13.ig*



SBC25 Stay Bar Collar for 25mm Ø mast *T4.7+gR8.ig*

SBC32 Stay Bar Collar for 32mm Ø mast *T4.7+gR8.ig*

Guying Accessories

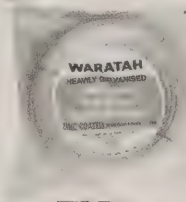


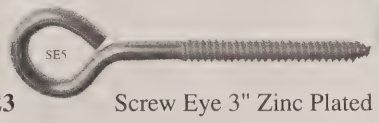
GPA32 Guy Plate A for 32mm/1.25" Ø
GPB39 Guy Plate B for 39mm/1.5" Ø
GPC45 Guy Plate C for 45mm/1.75" Ø
GPD50 Guy Plate D for 50mm/2" Ø *T1.4+gR2.*

LRA32 Lock Ring A for 32mm 1.25" Ø
LRB39 Lock Ring B for 39mm 1.5" Ø
LRC45 Lock Ring C for 45mm 1.75" Ø
LRD50 Lock Ring D for 50mm/2" Ø *T2.25+gR4.*

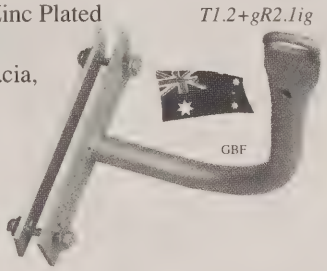
TBS Thimbles Heavy Duty *T.48+gR.90ig*

GW180/7.9 Guy Wire 180m
7 strands each .9mm *T32.95+gR58.ig*
GW30/6X1.1 Guy Wire 30m
6 strands ea. 1.12mm *T8.50+gR15.ig*





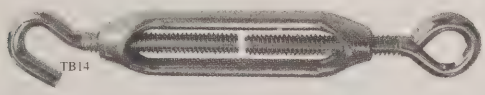
SE3 Screw Eye 3" Zinc Plated *T.8+gR1.4ig*
SE4 Screw Eye 4" Zinc Plated *T.9+gR1.6ig*
SE5 Screw Eye 5" Zinc Plated *T.95+gR1.7ig*
SE7 Screw Eye 7" Zinc Plated *T1.2+gR2.1ig*



GBF Guy Bracket Facia, Hot Dip Galvanised. Secures guy wires beyond roof edge right through fascia board. *T11.9+gR21.* (was FGB)

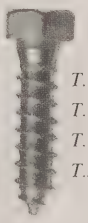
GCG25
Guy Cleat, Galvanized. 25mm between each 10mmø mounting hole, 25mmø guy hole. *T2.45+gR4.3ig*

TB14 Turnbuckle Hook & Eye 1/4" ZP *T1.3+gR2.3ig*
TB516 Turnbuckle Hook & Eye 5/16" ZP *T1.8+gR3.2ig*



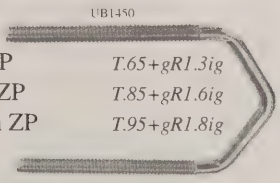
GWC3 Guy Wire Clamp 3mm zinc plated *T1.3+gR2.3ig*
GWC5 Guy Wire Clamp 5mm zinc plated *T1.5+gR2.7ig*

Coach Screw



CS51615 Coach Screw 5/16" x 1&1/2" Z *T.15+gR.30.i*
CS51625 Coach Screw 5/16" x 2&1/2" Z *T.17+gR.40.i*
CS3815 Coach Screw 3/8" x 1&1/2" Z *T.19+gR.40.i*
CS3825 Coach Screw 3/8" x 2&1/2" Z *T.25+gR.50.i*

U Bolt



UB1450 1/4" x 90mm x 50mm ZP *T.65+gR1.3ig*
UB51685 5/16" x 85mm x 65mm ZP *T.85+gR1.6ig*
UB516140 5/16" x 140mm x 65mm ZP *T.95+gR1.8ig*

Vee Blocks

VBP Vee Block Plated *T1.+gR1.9ig*
VBOFFSET Vee Block Offset Galvanised *T.7+gR1.8ig*

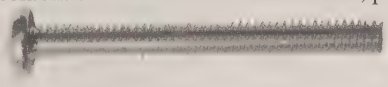
Nuts

HN316P 3/16" Hex. Plated. *T.05+gR.10ig*
HN14P 1/4" Hex. Plated. *T.05+gR.10ig*
HN516P 5/16" Hex. Plated. *T.08+gR.15ig*
HN38P 3/8" Hex. Plated. *T.11+gR.20ig*

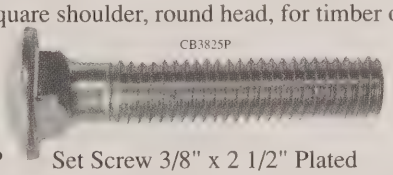
WN316P Wing Nut 3/16" *T.2+gR.40ig*

Screws & Bolts, Metalthread

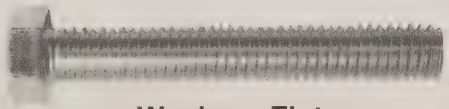
SC3162 Screw 3/16" x 2" Plated *T.15+gR.30ig*
Replacement screw for used antennas etc., pan head.



CB382P Cup Square Bolt 3/8" x 2" Plated. *T.34+gR.70ig*
Fixes CFB.... with MFS bracket (p.11) etc.
CB3825P Cup Square Bolt 3/8" x 2&1/2" Pl. *T.39+gR.80ig*
Square shoulder, round head, for timber or steel.

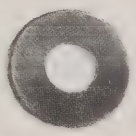


SS3825P Set Screw 3/8" x 2 1/2" Plated *T.95+gR1.8ig*
Thread all the way up the shank to the head.



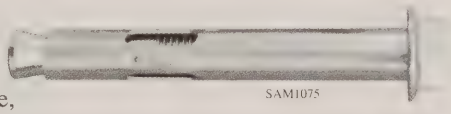
Washers Flat

WS316ZP 3/16" Plated *T.1+gR.20ig*
WS14ZP 1/4" Plated *T.04+gR.10ig*
WS516ZP 5/16"Plated *T.08+gR.20ig*
WS38ZP 3/8" Plated *T.08+gR.20ig*

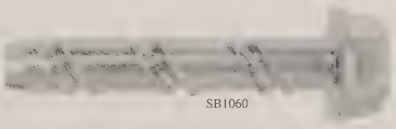


Masonry Fixings

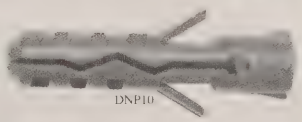
SAM840 8 x 40mm Sleeve Anchor plated *T.35+gR.70ig*
SAM890 8 x 90mm Sleeve Anchor plated *T.7+gR1.5ig*
SAM1050 10 x 50mm Sleeve Anchor plated *T.5+gR1.ig*
SAM1075 10 x 75mm Sleeve Anchor plated *T.6+gR1.2ig*



SB1060
Screwbolt. Screws directly into concrete, 10mm ø hole 60mm+ deep. *T2.8+gR5ig*

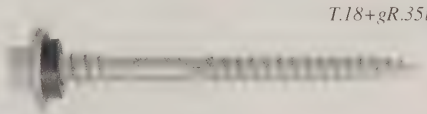


DNP10 Wall Plug. Use CS51615 in mortar or brick etc. 10mm ø hole 60mm+ deep. *T.31+gR.55ig*



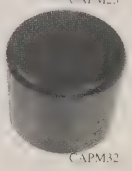
DNP12 Wall Plug. Use CS3825 in mortar or brick etc. 12mm ø hole 75mm+ deep. *T.48+gR.85ig*

RS1265 Roofers Screw galvanised, with neoprene washer. 12 gauge 65mm long. For corrugated iron roof. *T.18+gR.35ig*



Mast Caps

CAPM25 Caps any 25mm Ø tube *T.32+gR.6ig*
CAPM32 Caps any 32mm Ø tube *T.32+gR.6ig*

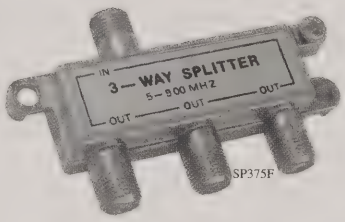


SPLITTERS COUPLERS MIXERS

Splitters 1GHz. 75Ω

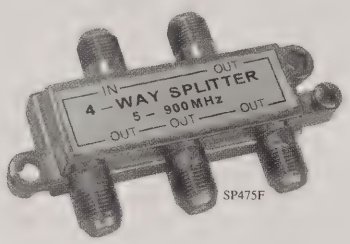
Smaller F type splitters
All Port Power Pass,
Air Suspended Construction.

SP275F 2 way F type,
power pass all ports.
T.79+gR3.ig



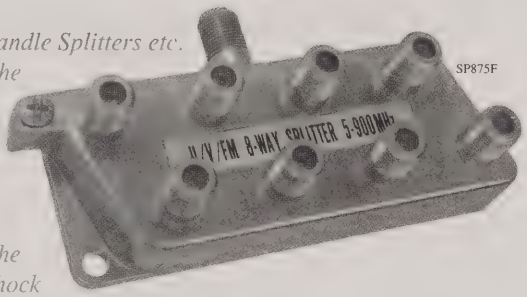
SP375F 3 way F type,
power pass all ports.
T.98+gR4.ig

SP475F 4 way F type,
power pass all ports.
T1.3+gR5.ig



SP675F 6 way F type,
power pass all ports.
T4.1+gR9.ig

SP875F 8 way F type,
power pass all ports.
T5.2+gR11.ig



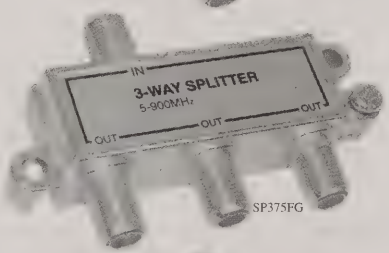
TechTip. *handle Splitters etc. with care as the electro-magnetic structure of ferrite can be permanently damaged by the mechanical shock that results from dropping them!*

NEW GOLD Plated F type splitters.
All Port Power Pass, Air Suspended Construction.

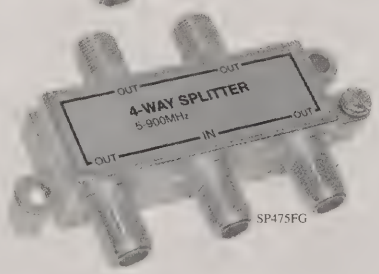
SP275FG 2 way F type,
Gold Plated power pass
all ports.
T1.1+gR3.ig

SP375FG 3 way F type,
Gold Plated power pass
all ports.
T1.9+gR5.ig

TechTip. SP375F & SP375FG are -4dB, -7dB, -7dB.



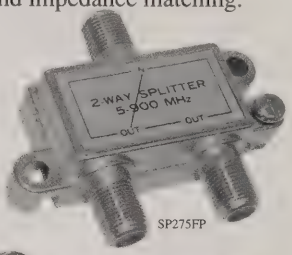
SP475FG 4 way F type,
Gold Plated power pass
all ports.
T2.2+gR6.ig



TechTip.
F type connectors provide a quality connection which creates minimum disturbance to signal quality.

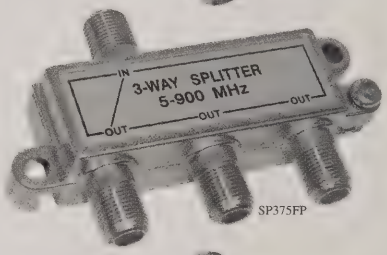
One Port Power Pass splitters. Printed Circuit Board construction with equalization and impedance matching.

SP275FP 2 way F type,
power pass one port.
T2.3+gR5.ig



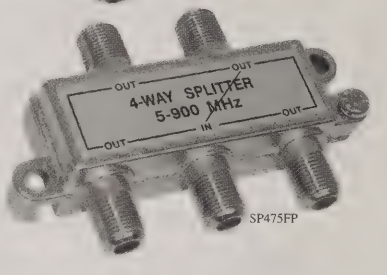
SP375FP 3 way F type,
power pass one port.
T2.8+gR6.ig

TechTip. SP375FP -5.5dB per port.



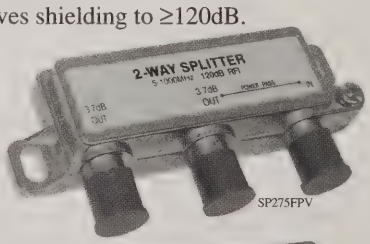
SP475FP 4 way F type,
power pass one port.
T3.7+gR7.ig

TechTip. Power Pass to One Port splitters simplify line powering of masthead and distribution amplifiers.

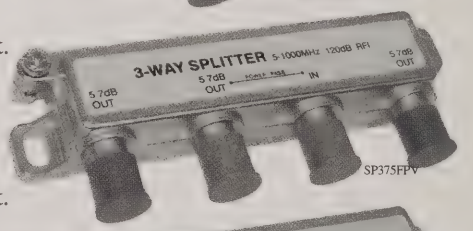


NEW One Port Power Pass splitters. Printed Circuit Board construction includes equalization and impedance matching. Port positions permit neater results and better weather protection. Cast back improves shielding to ≥120dB.

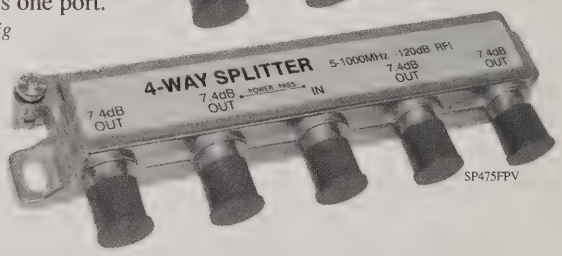
SP275FPV
2 way F type,
power pass one port
T4.9+gR9.ig



SP375FPV
3 way F type,
power pass one port.
T7.2+gR13.ig

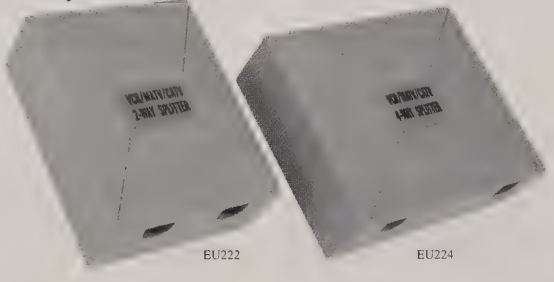


SP475FPV
4 way F type,
power pass one port.
T9.8+gR17.ig



Screw & Saddle Splitters

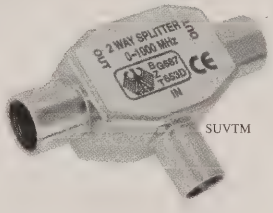
EU222 2 way screw & saddle, One Port Pwr Pass. *T2.4+gR6.ig*
EU223 3 way screw & saddle, One Port Pwr Pass. *T2.8+gR7.ig*
EU224 4 way screw & saddle, One Port Pwr Pass. *T3.9+gR8.ig*



Plug In PAL type Splitters 1GHz

SUVTP 2 way splitter PAL type connectors, *Plastic*. Male input to 2 x Female outputs. Power pass all ports. *T1.7+gR5.ig*

SUVTM 2 way splitter PAL type connectors, *Metal*. Male input to 2 x Female outputs. Power pass all ports. *T2.1+gR6.ig*

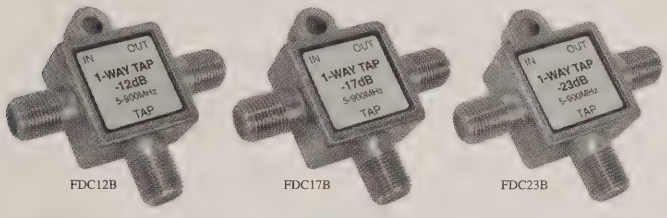


TechTip. sometimes called Power Dividers, splitters etc. divide or mix R.F. power across their entire frequency range, unlike diplexers etc. that are frequency selective.

Taps and Directional Couplers 1GHz

Super low cost directional couplers.

FDC12B 1 out -12dB, insertion loss 1dB *T1.1+gR3.ig*
FDC17B 1 out -17dB, insertion loss 1dB *T1.1+gR3.ig*
FDC23B 1 out -23dB, insertion loss 1dB *T1.1+gR3.ig*

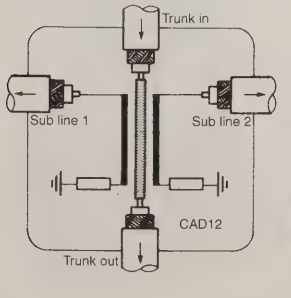


Excellence in performance with the convenience of screw & saddle, thanks to precision design and unique shielded terminals. Inductive Couplers with unusually flat frequency response.

		TAP VALUE	IN-OUT LOSS	
CD11	1 tap	-10dB	-0.8-1.1dB	*T9.5+gR16.ig*
CD141	1 tap	-14dB	-0.3-0.5dB	*T9.5+gR16.ig*
CD201	1 tap	-20dB	-0.2-0.6dB	*T10.+gR18.ig*
CD261	1 tap	-26dB	-0.2-0.7dB	*T10.+gR18.ig*
		TAP VALUE	IN-OUT LOSS	
CD12	2 tap	-10dB	-1.3-1.8dB	*T13.+gR23.ig*
CD142	2 tap	-14dB	-0.6-1.1dB	*T13.+gR23.ig*
CD202	2 tap	-20dB	-0.6-1.1dB	*T13.+gR23.ig*
CD262	2 tap	-26dB	-0.7-1.2dB	*T13.+gR23.ig*
		TAP VALUE	IN-OUT LOSS	
CD144	4 tap	-14dB	-0.8-2.8dB	*T19.+gR33.ig*
CD204	4 tap	-20dB	-0.3-1.2dB	*T19.+gR33.ig*
CD264	4 tap	-26dB	-0.3-1.2dB	*T19.+gR33.ig*
		TAP VALUE	IN-OUT LOSS	
CAD11	1 tap	-27/12dB	-0.1-0.7dB	*T9.+gR16.ig*
CAD12	2 tap	-27/13dB	-0.1-0.8dB	*T10.+gR18.ig*
CAD13	3 tap	-27/15dB	-0.2-2dB	*T16.+gR28.ig*
CAD14	4 tap	-27/15dB	-0.1-1.9dB	*T18.+gR32.ig*

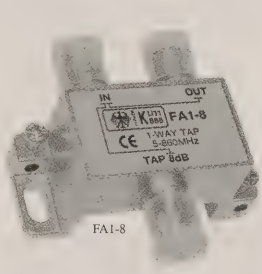
CN9 Optional housing for FR couplers *T2.+gR4.5ig*

TechTip. *CAD Stripline couplers feature higher losses at lower frequencies to equalise cable loss at higher freq.*

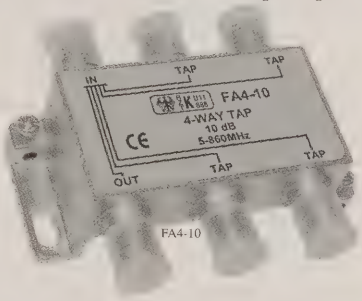


High specification 5-860MHz F connector directional couplers. High outlet to outlet isolation. Specifications at 500MHz Return Loss ≥18dB. Detailed sweep tests available.

		TAP VALUE	IN-OUT @500MHz	
FA1-6	1 tap	-6.5dB	-2dB	*T4.2+gR8.ig*
FA1-8	1 tap	-8.5dB	-2dB	*T4.2+gR8.ig*
FA1-10	1 tap	-10dB	-1.3dB	*T4.2+gR8.ig*
FA1-12	1 tap	-12.5dB	-.8dB	*T4.2+gR8.ig*
FA1-16	1 tap	-16dB	-.8dB	*T4.2+gR8.ig*
FA1-20	1 tap	-20dB	-.6dB	*T4.2+gR8.ig*
FA1-24	1 tap	-24dB	-.6dB	*T4.2+gR8.ig*
FA1-30	1 tap	-30dB	-.6dB	*T4.2+gR8.ig*
		TAP VALUE	IN-OUT @500MHz	
FA2-8	2 tap	-8.5dB	-4dB	*T6.3+gR11.ig*
FA2-10	2 tap	-10dB	-3dB	*T6.3+gR11.ig*
FA2-12	2 tap	-12.5dB	-1.8dB	*T6.3+gR11.ig*
FA2-16	2 tap	-16dB	-1dB	*T6.3+gR11.ig*
FA2-20	2 tap	-20dB	-1dB	*T6.3+gR11.ig*
FA2-24	2 tap	-24dB	-1dB	*T6.3+gR11.ig*
FA2-30	2 tap	-30dB	-.6dB	*T6.3+gR11.ig*
		TAP VALUE	IN-OUT @500MHz	
FA4-10	4 tap	-10dB	-6dB	*T8.4+gR15.ig*
FA4-12	4 tap	-12dB	-4dB	*T8.4+gR15.ig*
FA4-16	4 tap	-16dB	-1.7dB	*T8.4+gR15.ig*
FA4-20	4 tap	-20dB	-1.3dB	*T8.4+gR15.ig*
FA4-24	4 tap	-24dB	-.6dB	*T8.4+gR15.ig*
FA4-30	4 tap	-30dB	-.6dB	*T8.4+gR15.ig*



FA1-8

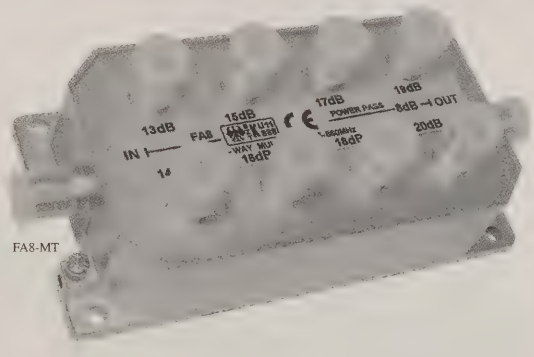


FA4-10

Multi - Taps 1GHz.

Varying tap values help equalize signal levels in star wired 5-860MHz MATV systems. Power Pass from In to Out. Specifications at 500MHz. Return Loss ≥20dB. Detailed sweep tests available.

FA4-MT -13dB/-14dB/-15dB/-16dB
In to Out loss -4dB, 4 way multi-tap *T9.9+gR17.ig*
FA6-MT -13dB/-14dB/-15dB/-16dB/-17dB/-18dB
In to Out loss -6dB, 6 way multi-tap *T11.8+gR21.ig*
FA8-MT -13dB/-14dB/-15dB/-16dB/-17dB/-18dB/-19dB/-20dB
In to Out loss -8dB, 8 way multi-tap *T13.1+gR23.ig*



FA8-MT

TechTip. *Directional Coupler and even Multi-Tap systems can seem a mystery to those who have not worked with them before. We will happliy design your first system for you!*

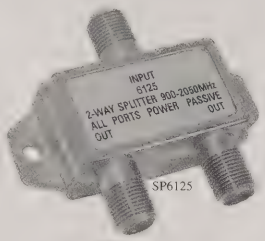
2GHz Satellite 1st IF Splitters

Low loss 900-2,050MHz Strip Line splitters
with slightly higher attenuation over 40-860MHz.

SP6125 2 way Satellite Splitter,
Power Pass All Ports, Diode Control *T2.89+gR6.ig*

SP6126 2 way Satellite Splitter,
Power Pass One Port *T2.89+gR6.ig*

SP6122 4 way Satellite Splitter,
Power Pass One Port *T6.9+gR12.ig*



SP6125

SP6126

Premium Quality Inductive
5-2,400MHz splitters
all port Power Pass Diode Controlled
excellent port to port isolation.

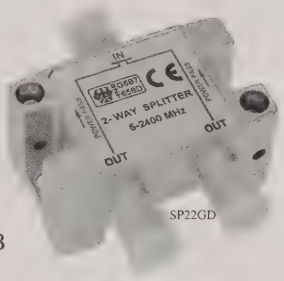
SP22GD 2 way 5-2,400MHz
Split Loss 5.5dB, Return Loss ≥16dB
@1,750MHz *T5.65+gR11.ig*

SP32GD 3 way 5-2,400MHz
Split Loss 8dB, Return Loss ≥14dB
@1,750MHz *T7.95+gR15.ig*

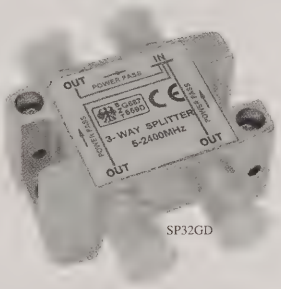
SP42GD 4 way 5-2,400MHz
Split Loss 10.5dB Return Loss ≥12dB
@1,750MHz *T10.1+gR19.ig*

SP62GD 6 way 5-2,400MHz
Split Loss 14dB Return Loss ≥10dB
@1,750MHz *T17.1+gR31.ig*

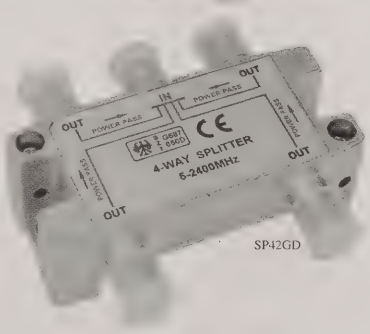
SP82GD 8 way 5-2,400MHz
Split Loss 15dB Return Loss ≥10dB
@1,750MHz *T19.9+gR35.ig*



SP22GD

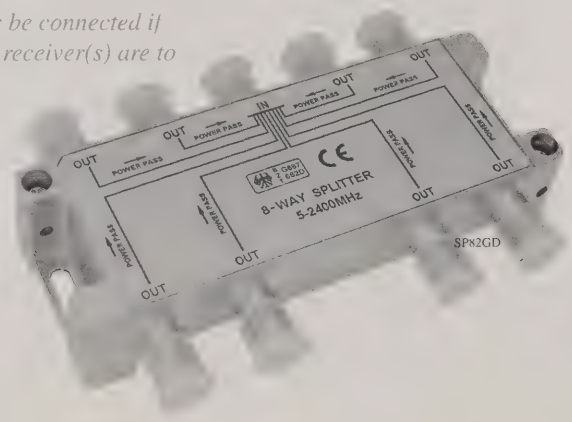


SP32GD



SP42GD

TechTip. Diode Steered splitters permit any receiver connected to power an LNBF. However any receiver in the 18V mode will fix the polarity of a common voltage switching LNBF in the 18V position for all receivers. The One Port Power Pass solution requires the receiver connected to the Power Pass to always be connected if the other receiver(s) are to function.



SP82GD

2GHz Multi Taps

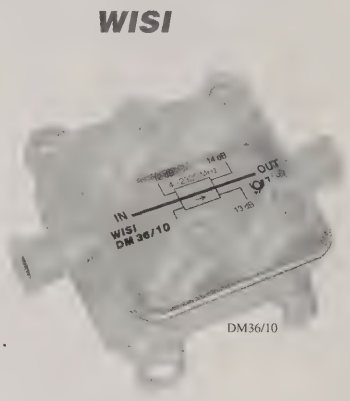
Genuine WISI brand 4-2,300 MHz multitaps. The quality way to distribute Satellite 1st IF to numbers of receivers.
LIMITED STOCK!

DM36/10 *T6.+gR11.ig*
In, Out & 4 taps:
11dB, 12dB, 13dB, 14dB.

DM36/13 *T6.+gR11.ig*
In, Out & 4 taps:
Tap 13dB, 14dB, 15dB, 16dB.

DM36/16 *T6.+gR11.ig*
In, Out & 4 taps:
16.5dB, 17dB, 17.5dB, 18.5dB.

DM36/19 *T6.+gR11.ig*
In, Out & 4 taps:
18.5dB, 19dB, 19.5dB, 20.5dB.



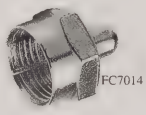
DM36/10

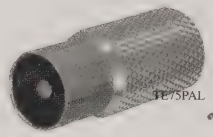
Terminators 75Ω

FC7014 F connector 75Ω terminator *T.48+gR1.1ig*

TE75PAL PAL 75Ω terminator male *T1.52+gR2.8ig*

TE75SC Screw & Saddle 75Ω terminator *T.48+gR1.1ig*


FC7014


TE75PAL

TE75SC

Antenna Stacking Couplers

Extra signal and narrower beamwidth are achieved by stacking antennas. Practically nil insertion loss! A clever way to reduce multipath signal and sidelobes whilst optimising front to back ratio. Use with equal lengths of coax from antennas.

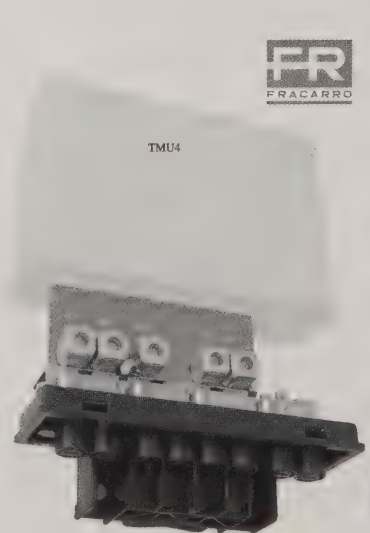
TMU4 UHF 4 x B4/B5 antennas for +6dB *T19.+gR33.ig*

TM4 UHF 2 x B4 antennas for +3dB *T15.+gR26.ig*

TM5 UHF 2 x B5 antennas for +3dB *T15.+gR26.ig*

TM23C VHF 2 x B3 antennas for +3dB *T15.+gR26.ig*

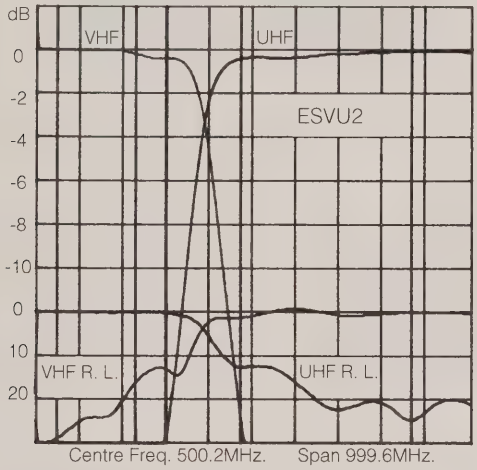
FR FRACARRO


TMU4

TM23C

Band Mixers or Separators

Band selective couplers with <.5dB VHF and <1dB UHF insertion loss and >30dB out of band rejection. Clients tell us Fracarro make the best low cost TV mixers! Unique shielded screw & saddle terminals. Power Pass coils can be re-routed to any port although soldering is required! (Except ESVU2).



ESVU2 VHF/UHF 2 input mixer, pwr pass VHF *T7.5+gR14.ig*
ESVU VHF/UHF 2 input mixer, pwr pass UHF *T9.5+gR16.ig*

JSVU2 ESVU2 with F conn. like JS2RT p.34 *T19.+gR34.ig*
JSVU3 JSVU2 VHF & S 40-446MHz&UHF *T37.+gR65.ig*

ESL3U UHF, B3 & B's1&2, 3 input mixer, Power Pass UHF. Band 3 -3dB at Au ch. 5A. *T20.+gR35.ig*

ESV45 Au ch.40-75 UHF High, Au ch.20-36 UHF Low & VHF, 3 input mixer, Power Pass UHF High port. *T20.+gR35.ig*

ESV45S Au ch.38-75 UHF High, Au ch.20-32 UHF Low & VHF, 3 input mixer, Power Pass UHF High port. *T21.+gR36.ig*

ESV45/50 Au ch.54-75 UHF High, Au ch.20-49 UHF Low & VHF, 3 input mixer, Power Pass UHF High port. *T23.+gR40.ig*

ESV45/57 Au ch. 61-75 UHF High, Au ch.20-58 UHF Low & VHF, 3 input mixer, Power Pass both UHF ports. *T23.+gR40.ig*

ESVUU UHF, UHF&VHF, 3 input mixer, Power Pass 1 UHF port. (-4dB UHF as UU mix is wide band!) *T23.+gR40.ig*

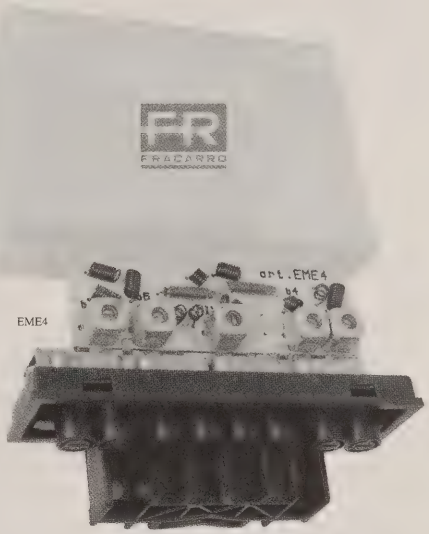
ES345/32 Au ch.33-75 UHF High, Au ch.20-28 UHF Low & B3, 3 inp. mix, Pwr Pass UHF High, TrapB1&2. *T24.+gR42.ig*

ES345/39 Au ch.41-75 UHF High, Au ch.20-35 UHF Low & B3, 3 inp. mix, Pwr Pass both UHF, TrapB1&2. *T24.+gR42.ig*

ES345/40 Au ch.42-75 UHF High, Au ch.20-39 UHF Low & B3, 3 inp. mix, Pwr Pass UHF High, TrapB1&2. *T24.+gR42.ig*

ES345/43 Au ch.45-75 UHF H, Au ch.20-43 UHF L & B3, 3 inp. mix, Pwr Pass B3 to UHF H, TrapB1&2. *T24.+gR42.ig*

EME4
B1/B3/B4/B5
4 input mixer,
power pass
B4&B5.
T31.+gR52.ig



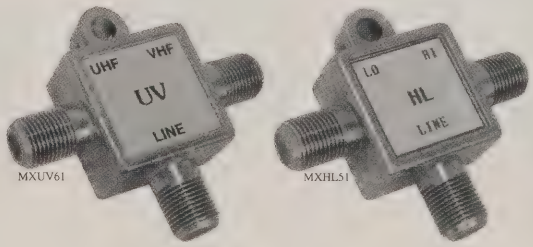
TechTip. ESV45 upper limit of band 4 can be increased by adjusting coil 1 and wire 2. A spectrum analyser and noise source should be used as any such modification voids warranty!

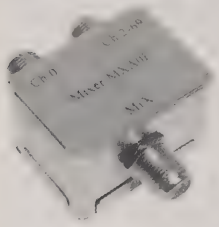
M45/36 Mix[GRIGIO] Australian channels 0-36[BLU] with 40-69[GIALLO]. ≤1dB insertion loss with ≥30dB isolation. Applications include mixing the RF out from satellite TV receivers with off-air TV channels. Weatherproof housing. *T23.+gR38.ig*

UV1 Weatherproof Outdoor VHF/UHF mixer. VHF 75Ω or 300Ω and Power Pass, screw & saddle. *T5.2+gR10.ig*

MXUV61F VHF/UHF F connector mixer *T2.6+gR5.ig*

MXHL51F VHF High/Low F conn. mixer *T2.6+gR5.ig*



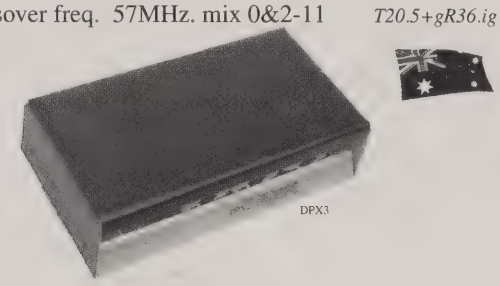


MXA0F Mix Au ch 0 with 2-69. Improved filter design and F connectors mix VCR, SKY, Foxtel etc. or any channel O signal with capital city off air TV. Minimal insertion loss. Off air channel 0 RFI and interference from the modulator are rejected by the diplexer's crossover as out of band. *T6.6+gR12.ig*

DPX3 Crossover freq. 188MHz. mix 0-6&9-11 *T20.5+gR36.ig*

DPX4 Crossover freq. 202MHz. mix 0-7&11 *T20.5+gR36.ig*

DPX6 Crossover freq. 57MHz. mix 0&2-11 *T20.5+gR36.ig*



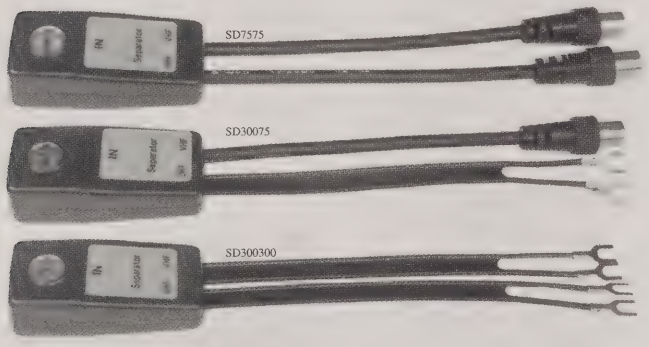
Set Diplexers

Low cost set diplexers with female PAL input connector.

SD7575 75ΩUHF/75ΩVHF out, 75Ω in. *T3.2+gR6.ig*

SD30075 300ΩUHF/75ΩVHF out, 75Ω in. *T3.2+gR6.ig*

SD300300 300ΩUHF/300ΩVHF out, 75Ω in. *T3.2+gR6.ig*

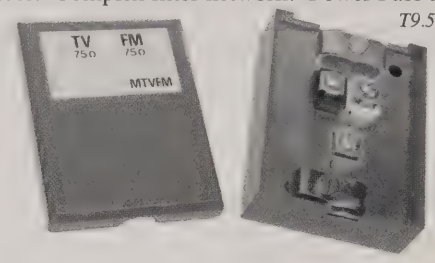


MVU7, MVU82, and MTVFM are Quality Fracarro couplers with 75Ω screw & saddle terminals.

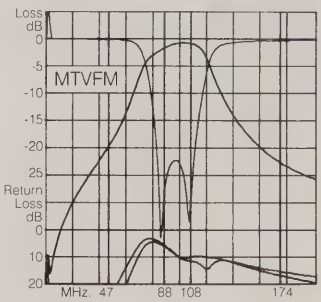
MVU7 300ΩVHF/300ΩUHF out, 75Ω in. *T7.+gR12.ig*

MVU82 75ΩVHF/75ΩUHF out, 75Ω in. *T9.+gR16.ig*

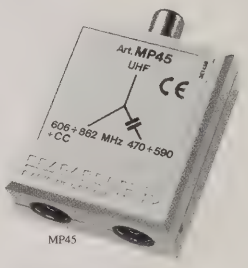
MTVFM Decouple FM from 75Ω TV line with 1dB insertion loss. Complex filter network! Power Pass to TV port. *T9.5+gR17.ig*



TechTip. MTVFM frequency response tells the story in detail for the technically minded



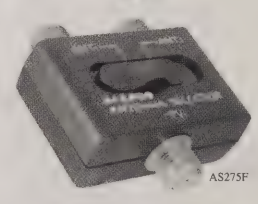
MP45
Mix or separate Band 4 from Band 5.
≥30dB isolation between sides.
B4 470-590MHz, B5 606-862MHz.
Fully screened, PAL connectors,
.5dB insertion loss.
T22.+gR39.ig



Antenna / Game Switches

DEV1
Fracarro 2 way antenna switch, 75Ω screw & saddle connections.
Power Pass included.
T9+gR29.ig

AS275F
2 way antenna switch, 75Ω,
F connectors. High Isolation.
T6.1+gR11.



Television Skirting Outlets

EU503 Skirting Socket, miniature surface mount outlet. Positions coax plug almost vertical, making damage from nearby furniture less likely. *T1.4+gR3.ig*

EU503I Skirting Skt, 2kV dual isolation. *T2.+gR5.ig*

EU503DE Skirting Socket, Double Entry. *T2.+gR5.ig*

EU503F Skirting Socket, F connector. *T2.+gR5.ig*

Television Outlet Plates

WP5 White outlet plate with screw fixed mechanisim. Screw & saddle terminals. *T2.47+gR6.ig*

WP5/ISOL White outlet plate, screw fixed mechanisim, modest insertion loss. 2kV dual isolation protects against hot chassis TV's. Screw & saddle terminals. *T3.24+gR7.ig*

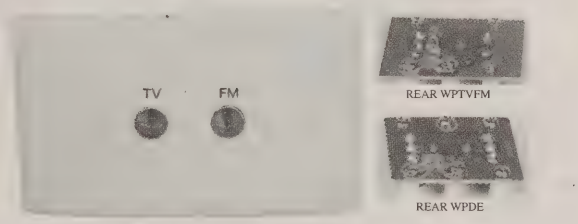
WP5F White PAL type outlet plate with screw fixed mech. Female F input connector, fully screened. *T2.69+gR6.ig*

WPSPL White outlet plate with splitter on PCB. -4dB split loss. Screw & Saddle in & out terminals. *T4.09+gR9.*

WPF White outlet plate with F Female input and output connector, fully screened. *T1.84+gR5.ig*

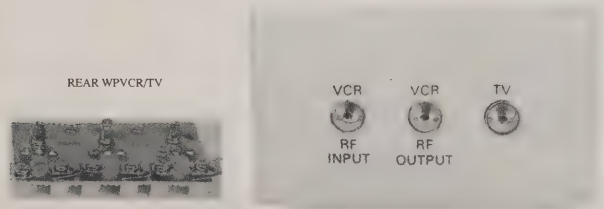
WPTVFM White outlet plate, screw fixed mech. Divides FM from TV to separate outlets. Screw & saddle in. *T4.72+gR10.ig*

WPDE White outlet plate, screw fixed mechanism. On board splitter divides signal between two outlets, similar to WPTVFM. Outlets marked TV1 and TV2. Ideal for TV retail, workshops, etc. Screw & saddle terminal. *T4.83+gR10.ig*



WPFTAP White outlet plate with one F female to PAL outlet for Free To Air and one F to F outlet for Pay TV. *T4.83+gR10.ig*

WPVCR/TV White outlet plate, screw fixed mechanism with 3 individual outlets marked RF INPUT / RF OUTPUT / TV. Screw & saddle terminals. *T8.08+gR16.ig*



WPB Blank plate white same shape as WP5 etc. Mount your connectors, or use as a cover plate. *T1.37+gR3.ig*

WPRCA2 White outlet plate with 2 x RCA terminals. For general purpose High Ω Video and Audio. Wires solder to rear. *T3.05+gR7.ig*

WPRCA4 White outlet plate with 4 x RCA terminals. For general purpose High Ω Video and Audio. Wires solder to rear. *T4.65+gR9.ig*

WPBP2 White outlet plate with 2 x Binding Posts. Wires solder to rear. For loudspeaker and other Low Ω applications. Mates with Banana Plugs. *T3.05+gR7.ig*

WPBP4 White outlet plate with 4 x Binding Posts. Wires solder to rear. For loudspeaker and other Low Ω applications. Mates with Banana Plugs. *T4.65+gR9.ig*

CLI449AS Mounting Block 10mm (shallow) *T2.56+gR5.ig*

CLI449A Mounting Block 34mm (deep) *T2.99+gR5.ig*

WCP Plaster mounting clip for W series outlet plates. Also suits power points, switches etc. *T.8+gR2.ig*

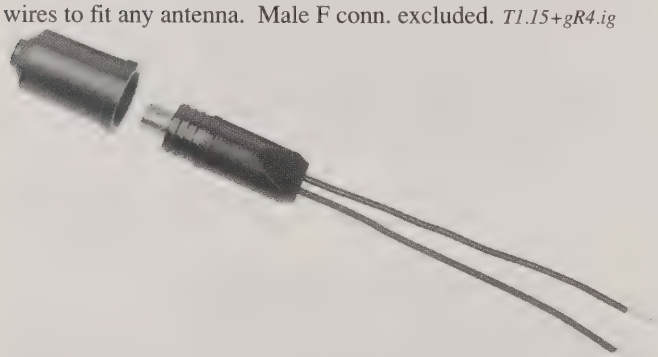
WBS Stud mounting bracket for W series plates. Also suits power points etc. Nails to stud for secure fix. *T.1.05+gR2.5ig*

Baluns / Matching Transformers

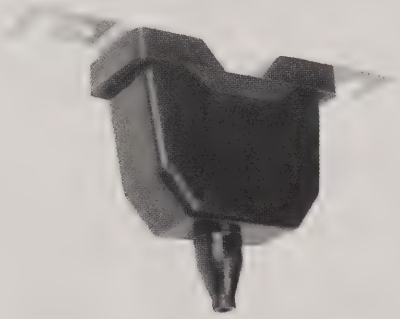
TechTip. a balun provides a proper impedance match between the natural 300Ω impedance of an antenna and 75Ω coax, thereby allowing transfer of maximum energy. Balun is an abbreviation for balanced to unbalanced.

2030SC 300-75Ω Weatherproof balun screw & clamp coax terminal, solid wires to fit any 300Ω antenna. *T1.15+gR4.ig*

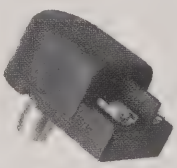
2030F 300-75Ω Weatherproof balun F connector, solid wires to fit any antenna. Male F conn. excluded. *T1.15+gR4.ig*



MHBT 300-75Ω telnay type weatherproof mast-head balun, black colour for long UV life. *T1.9+gR5.ig*



BT1 300-75Ω set balun, 300Ω screw terminals to PAL male connector. *T1.5+gR4.ig*



BT2PAL 75-300Ω set balun, PAL female connector to 300Ω ribbon with spade lugs. *T1.05+gR3.ig*

BT2F 75-300Ω set balun, F female connector to 300Ω ribbon with spade lugs. *T1.05+gR3.ig*

Batteries Dry Cell and Sealed Lead Acid

Genuine Toshiba dry cell batteries, shrink wrapped without costly display cards. Universal battery sizes.

BDR03UG 2 x AAA size 1.5V Super Heavy Duty Toshiba brand dry cell, shrinkwrapped. *T2.3+gR4.1ig*

BDLR6GR 2 x AA size 1.5V Alkaline Toshiba brand dry cell, shrinkwrapped. *T2.6+gR4.5ig*

BDR6KG 4 x AA size 1.5V Heavy Duty Toshiba brand dry cell, shrinkwrapped. *T2.3+gR4.1ig*

BD6F22KG 1 x 1604 size 9V Heavy Duty Toshiba brand dry cell, shrinkwrapped. *T2.4+gR4.3ig*

BDR14KG 2 x C size 1.5V Heavy Duty Toshiba brand dry cell, shrinkwrapped. *T2.+gR3.55ig*

BDR20KG 2 x D size 1.5V Heavy Duty Toshiba brand dry cell, shrinkwrapped. *T2.3+gR4.1ig*

BD4R25S 6V Dolphin type lantern dry cell. *T3.5+gR6.ig*

Batteries Sealed Lead Acid

BS1222 2.2Ah 12V Sealed Lead Acid battery. Suits Unaohm models FSM-5991, SBM-105, TBM-299 etc. *T60.+gR105.ig*

BS1234 3.4Ah 12V Sealed Lead Acid battery. Suits Unaohm EP-305, EP-306, EP315, EP-316, EP-318 etc. *T60.+gR105.ig*

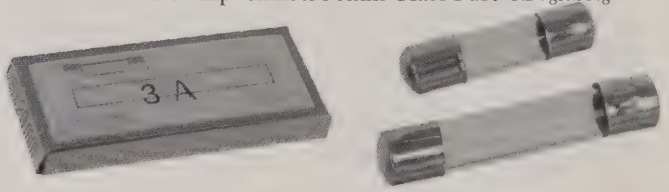
BS1272 7.2Ah 12V Sealed Lead Acid battery. Suits Unaohm models EP-313, EP-307, EP-507 etc. *T45.+gR79.ig*

TechTip. Panasonic brand Sealed Lead Acid batteries are our preference. However, we reserve the right to substitute with other brands in accordance with availability at time of order.

Fuses Glass

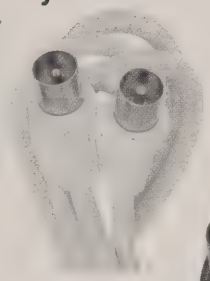
Replacement fuses for general purpose applications. Available in inners of 10 and outers of 100 for even greater savings.

F520-.25A	250mA	5mm x 20mm Glass Fuse	*T.2+gR.35ig*
F520-.5A	500mA	5mm x 20mm Glass Fuse	*T.2+gR.35ig*
F520-1.0A	1.0Amp	5mm x 20mm Glass Fuse	*T.2+gR.35ig*
F520-1.5A	1.5Amp	5mm x 20mm Glass Fuse	*T.2+gR.35ig*
F520-2.0A	2.0Amp	5mm x 20mm Glass Fuse	*T.2+gR.35ig*
F520-3.0A	3.0Amp	5mm x 20mm Glass Fuse	*T.2+gR.35ig*
F630-.25A	250mA	6mm x 30mm Glass Fuse	*T.2+gR.35ig*
F630-.5A	500mA	6mm x 30mm Glass Fuse	*T.2+gR.35ig*
F630-1.0A	1.0Amp	6mm x 30mm Glass Fuse	*T.2+gR.35ig*
F630-1.5A	1.5Amp	6mm x 30mm Glass Fuse	*T.2+gR.35ig*
F630-2.0A	2.0Amp	6mm x 30mm Glass Fuse	*T.2+gR.35ig*
F630-3.0A	3.0Amp	6mm x 30mm Glass Fuse	*T.2+gR.35ig*



Television Flyleads 75Ω

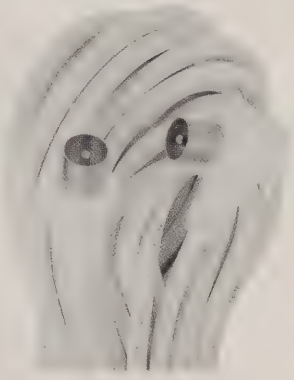
TechTip. Lacey's flyleads are fully braid and foil shielded.



FL1.5MMSW 1.5m
Male to Male WHITE, Straight PAL 9.5mm connectors.
T1.09+gR4.ig

FL1.5MMSB 1.5m
Male to Male BLACK, Straight PAL 9.5mm connectors.
T1.09+gR4.ig

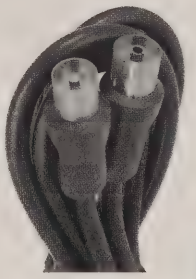
FL1.8MMRW 1.8m
Male to Male WHITE, Straight to Right Angle PAL 9.5mm connectors.
T1.26+gR5.ig



FL3.0MMRW 3m
Male to Male WHITE, Straight to Right Angle PAL 9.5mm connectors.
T1.66+gR7.ig

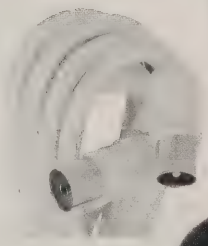
FL5.0MMRW 5m
Male to Male WHITE, Straight to Right Angle PAL 9.5mm connectors.
T2.5+gR9.ig

FL10.MMRW 10m
Male to Male WHITE, Straight to Right Angle PAL 9.5mm connectors.
T3.9+gR12.ig

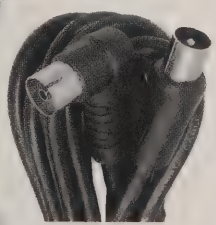


FL1.5MFSB 1.5m
Male to Female BLACK, Straight PAL 9.5mm connectors.
T1.12+gR4.ig

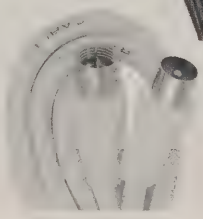
FL1.5MFSW 1.5m
Male to Female WHITE, Straight PAL 9.5mm connectors.
T1.12+gR4.ig



FL1.5MFRRW 1.5m
Male to Female WHITE, Right Angle to Right Angle PAL 9.5mm conn.
T1.2+gR5.ig



FL1.8MFSRB 1.8m
Male to Female BLACK, Straight to Right Angle PAL 9.5mm conn.
T1.3+gR6.ig

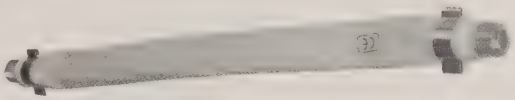


FL1.8FMSW 1.8m
'F' Male to PAL 9.5mm Male WHITE, Straight connectors.
T1.3+gR6.ig

FLD2.MFSW
2m Male to Female, PAL 9.5mm fully shielded crimp connectors WHITE. *Noise Suppressors* at each end! *T3.1+gR9.ig*

TechTip. suppressors reduce the effect of Impulse Noise, a particular danger to Digital Terrestrial (DTT/DVI.

FL.2FFW Flat 75Ω TV lead F Female to F Female, 3mm thick 210mm total length with peel and stick. For use through windows and door frames etc. *T7.+gR12.ig*



FLR10.MFSB 10m Male to Female BLACK cable complete with reel that simplifies storage and repeated use. Straight PAL 9.5mm connectors included. Attractive printed carton with handle included. Barcoded. *T16.+gR29.ig*

FL2.0DUB *Blister Packed*
Universal TV lead. WHITE 2m Male to Female, PAL 9.5mm shielded crimp connectors. *Noise Suppressors* at each end! M to M adapter included. Barcoded.
T3.4+gR9.ig

FL1.8MMUB *Blister Packed*
Universal TV lead. WHITE 1.8m Male to Male, Straight to Right Angle PAL 9.5mm connectors. F to F adapter included. Barcoded.
T1.8+gR5.ig

FL3.0MMUB *Blister Packed*
Universal TV lead. WHITE 3.0m Male to Male, Straight to Right Angle PAL 9.5mm connectors. F to F adapter included. Barcoded.
T2.2+gR6.ig

AR1203BP *Blister Packed*
BLACK 1.8m 2 RCA Male to 2 RCA Male, Shielded Lead with colour connectors. Barcoded.
T2.2+gR6.ig

Video & Audio (baseband) Leads

AR1001 1.8m 1 RCA Male to 1 RCA Male, black Shielded Lead with colour matched connectors. *T.94+gR3.ig*

AR1202 1.8m 2 RCA Male to 2 RCA Male *Piggy Back,* black Shielded Lead with colour connectors. *T1.98+gR5.ig*

AR1203 1.8m 2 RCA Male to 2 RCA Male, black Shielded Lead with colour connectors. *T1.57+gR4.ig*

AR1204 1.8m 2 RCA Male to 2 RCA Female, black Shielded Lead with colour connectors. *T1.57+gR4.ig*

AR1205 1.8m 2 RCA Male to 1 x 3.5mm stereo Male, black Shielded Lead with colour connectors. *T1.57+gR4.ig*

AR1206 1.8m 3.5mm Stereo Male to 3.5mm Stereo Male, black Shielded Lead with colour connectors. *T1.57+gR4.ig*

AR1208 1.8m 1 RCA Male to 2 RCA Male, black Shielded Lead - Mono VCR audio to HiFi. *T1.37+gR4.ig*

AR1209 1.8m 2 RCA Female to 2 RCA Female, black Shielded Lead with colour connectors. *T1.57+gR4.ig*

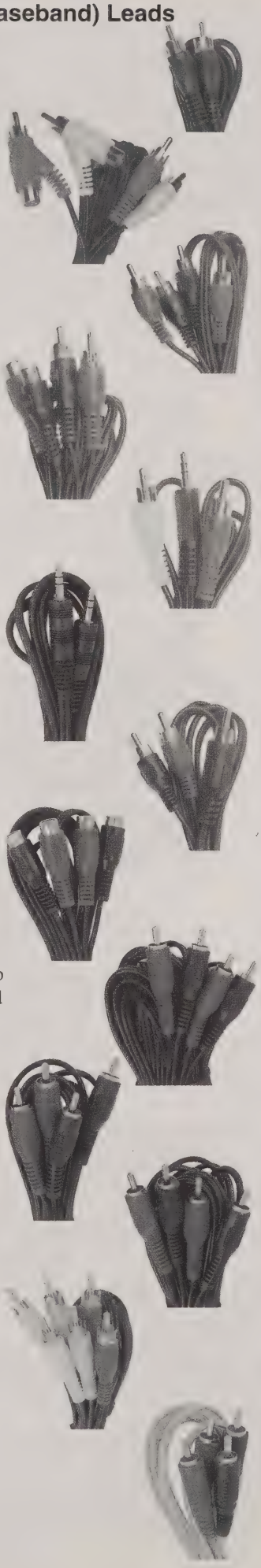
AR1213 10m 2 RCA Male to 2 RCA Male, black Shielded Lead with colour connectors. *T5.1+gR11.*

AR1233 3m 2 RCA Male to 2 RCA Male, black Shielded Lead with colour connectors. *T2.1+gR5.ig*

AR1253 5m 2 RCA Male to 2 RCA Male, black Shielded Lead with colour connectors. *T3.1+gR7.ig*

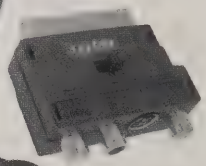
AR1307 1.8m 3 RCA Male to 3 RCA Male, black Shielded Lead with colour connectors. *T2.59+gR6.ig*

AR1403 1.8m *GOLD PLATED* 2 RCA Male to 2 RCA Male, clear Super Shield Lead with colour matched connectors. *T3.5+gR8.ig*



AR1503 1.8m *HEAVY DUTY* Shielded Lead 2 RCA Male to 2 RCA Male *GOLD PLATED.* *T6.9+gR12.ig*

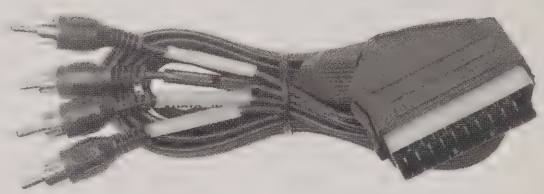
SRCI01 SCART to RCA and SVHS adapter with In / Out switch enabling use in either configuration. *T6.9+gR12.ig*



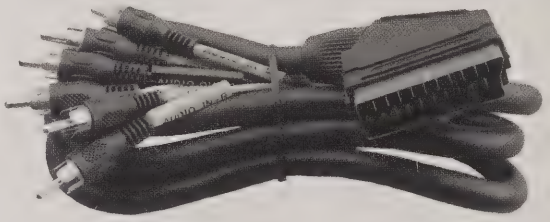
VS1084 1.8m 4 pin MINI DIN Male to 4 pin MINI DIN Male black, for SVHS Video Audio link. *T2.76+gR6.ig*

VS2021 1.5m SCART to 4 RCA plugs. Mono VCR Audio&Video to TV etc. *T6.3+gR13.ig*

VS2020 1.5m SCART to 4 RCA plugs. Stereo Audio no video. *T6.3+gR13.ig*

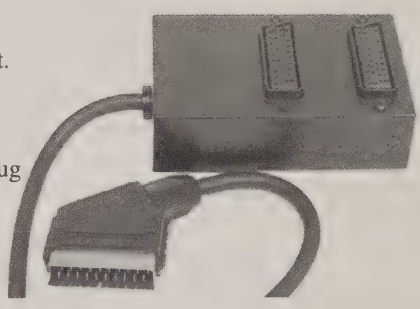


VS2018 1.5m SCART to 6 RCA plugs. Stereo VCR's etc. Audio&Video. *T8.75+gR17.ig*

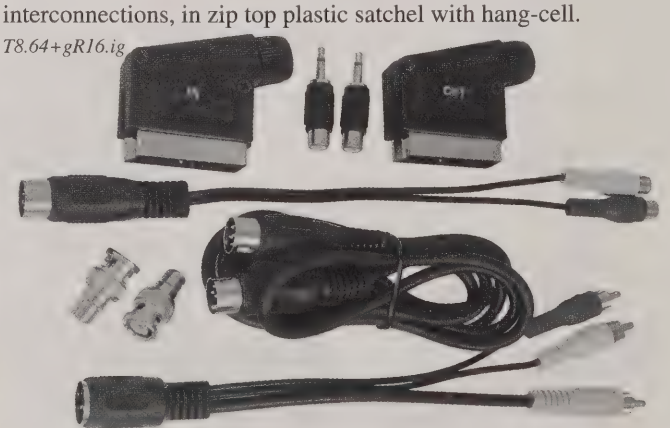


VS2002 1.5m SCART male to SCART male, all 21 pins connect. *T10.3+gR20.ig*

VS2010 SCART double adapter. Male plug to 2 x Female sockets (parrellel). All 21 pins interconnect. *T9.8+gR18.ig*

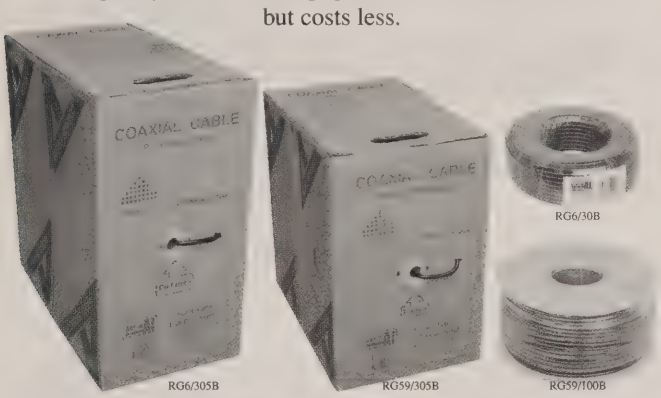


VS2KIT Video Survival dubbing kit. Most possible video interconnections, in zip top plastic satchel with hang-cell. *T8.64+gR16.ig*



Coaxial Cables 75Ω

Aerial Industries brand coaxial cable is meter marked and ships in centre pull 305m cartons and shorter lengths. Insertion loss and quality are similar to popular American coax cables but costs less.



RG59/100B Black sheath RG59 on 100m cardboard spools. Braid coverage 37% (32 x .12mm aluminium braid wires), non-bonded aluminium foil, gas injected foam p.e. dielectric, .643mm Copper Clad Steel centre wire. *T24.+gR42.ig*

RG59/305B Black sheath RG59 in 305m centre pull boxes. Braid coverage 37% (32 x .12mm aluminium braid wires), non-bonded aluminium foil, gas injected foam p.e. dielectric, .643mm Copper Clad Steel centre wire. *T74.+gR130.ig*

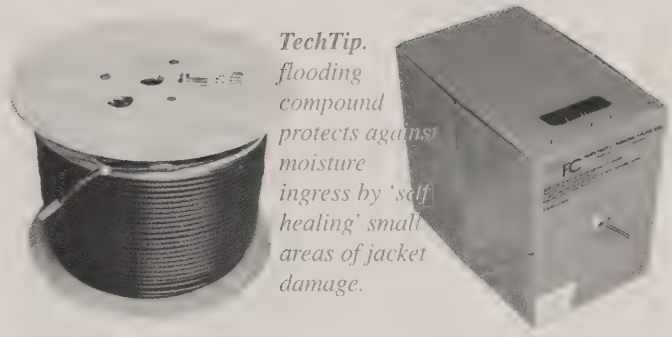
RG6/100B Black sheath RG6 on 100m cardboard spools. Braid coverage 40% (48 x .12mm aluminium braid wires), non-bonded aluminium foil, gas injected foam p.e. dielectric, 1.02mm Copper Clad Steel centre wire. *T33.+gR58.ig*

RG6/305B Black sheath RG6 in 305m centre pull boxes. Braid coverage 40% (48 x .12mm aluminium braid wires), non-bonded aluminium foil, gas injected foam p.e. dielectric, 1.02mm Copper Clad Steel centre wire. *T99.+gR174.ig*

RG6/100W WHITE sheath RG6 on 100m cardboard spools. Braid coverage 40% (48 x .12mm aluminium braid wires), non-bonded aluminium foil, gas injected foam p.e. dielectric, 1.02mm Copper Clad Steel centre wire. *T33.+gR58.ig*

RG6/30B Black sheath RG6 in 30m coil, as RG6/100B, plastic wrapped for low meterage use. Barcoded. *T12.+gR21.ig*

RG6Q/305B Black sheath RG6 QUADSHIELD on 305m spools. Braid coverage 60+60% (double foil + 64 x 0.16 aluminium wire + double foil + 64 x 0.16 aluminium wire), gas injected foam p.e. dielectric, 1.02 mm Copper Clad Steel centre wire. *T138.+gR243.ig*



TechTip. flooding compound protects against moisture ingress by 'self healing' small areas of jacket damage.

RG59TFC MI-2045 305m TimeSaver carton 37% braid coverage, loose aluminium foil, CCS centre. *T118.+gR208.ig*

RG640TFC MI-2060 305m TimeSaver carton 40% braid coverage, loose aluminium foil, CCS centre. *T149.+gR262.ig*

RG660TFC MI-2360 305m. TimeSaver 60% braid coverage, bonded aluminium foil, CCS centre. *T169.+gR297.ig*

RG660FTFC MI-2386 Flooded 305m TimeSaver 60% braid coverage, bonded aluminium foil, CCS centre. *T179.+gR315.ig*

RG6QTFC MI-2260 Quadshield 305m TimeSaver 60%&40% braid cover, bonded alum. foil, CCS centre. *T198.+gR348.ig*

RG6QFTFC MI-2286 Quad. Flooded 305m TimeSaver 60%&40% braid cover, bonded alum. foil, CCS. *T198.+gR348.ig*

RG11TFC MI-2362 305m Wood Drum 53% braid coverage, bonded aluminium foil, CCS centre. *T339.+gR597.ig*

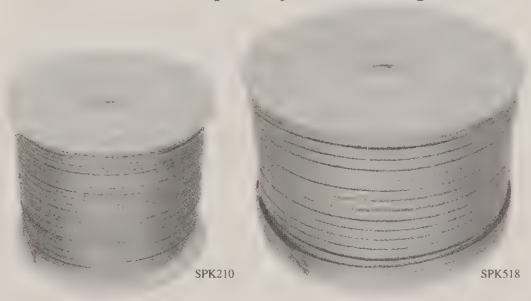
RG11FTFC MI-2382 Flooded 305m Drum 53% braid coverage, bonded aluminium foil, CCS centre. *T349.+gR614.ig*

RG11QTFC MI-2262 Quadshield 305m Drum 53%&32% braid coverage, bonded aluminium foil, CCS centre. *T390.+gR686.ig*

RG11QFTFC MI-2282 Quadshield Flooded 305m Drum 53%&32% braid, bonded al. foil, CCS centre. *T395.+gR695.ig*

Low Voltage Cable

100m spools, suitable for most low voltage applications include loudspeakers, security, low voltage lighting, door bells etc. Clear sheath colour with polarity indicator, figure 8, solid copper.



SPK-14 7 x .17mm strands x 2; 1.4x3.5mmØ. *T9.45+gR17.ig*

SPK-32 16 x .2mm strands x 2; 2.7x5.1mmØ. *T19.95+gR36.ig*

SPK-60 30 x .16mm strands x 2; 3x6mmØ. *T24.95+gR44.ig*

SPK-210 105 x .12mm (7x15) strands x 2; 3x6 mmØ, Oxygen Free Copper, fine strand SuperFlex. *T46.+gR81.ig*

SPK-518 259 x .12mm (7x37) strands x 2; 4.5x9mmØ, Oxygen Free Copper, fine strand SuperFlex. *T95.+gR167.ig*

Cable Installation Tools

CMS-RODS Cabling aid, for use under floors, in ceiling spaces, in conduit, or anywhere! 1.5m fibreglass rod threaded to allow linkage end to end. *T19.5+gR34.ig*

CMS-HOOK Hook screws on to male end of CMS-Rod. *T9.4+gR17.ig*

MAGIC-STRIP
Push up wall cavity with cable taped to end. Strip is easily located thanks to Yellow colour. Simply pull to install cable. 3.6m long x 15mm x 4mm. Store in side of extension ladder or conduit to keep flat. *T3.80+gR8.ig*

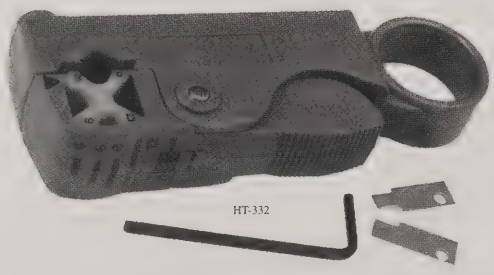
RODDY-THIN *NEW* round handy cable installation aid. Thin yet strong enough to clear blocked cavities etc. Yellow colour, 3m lengths 3mmØ. *T19.+gR33.ig*

Rotary Coax Stripping Tools

HT-332 2 blades for RG6, RG59, RG58 etc. Hex Key adjustable (incl.) & Quick Change. *T18.+gR32.ig*

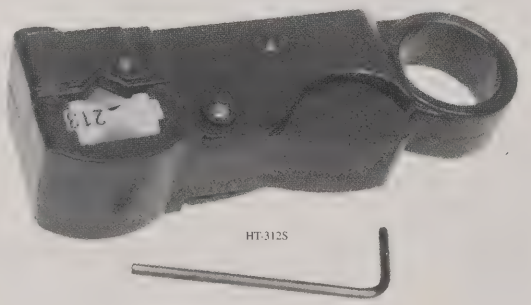
HT-3321 Replacement cutting blades for HT-332, 6 pieces (3 x full sets) in each pack. *T4.9+gR9.ig*

4 X CMS-RODS PICTURED



HT-312S 3 blade rotary stripping tool for BIG cables RG11, RG213 etc. up to 10.5mm Ø. Hex Key adjustable (included) & Quick Change. *T26.+gR46.ig*

HT-3121 Replacement cutting blades for HT-312S, 6 pieces (2 x full sets) per pack. *T4.9+gR9.ig*



Crimp Tools

HF-58 Economy crimp tool for RG59 and RG6. *T3.7+gR7.ig*

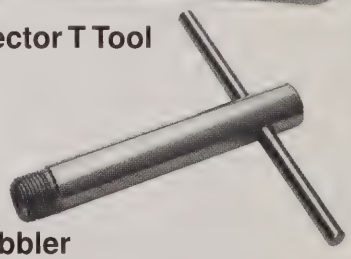
HT-106A Heavy duty hexagon crimp tool 220mm. Jaws: 6.48mm/.255", 5.4mm/.213", & 1.72mm/.068". For BNC conn. etc. that require centre pin crimp. *T33.5+gR59.ig*

HT-106E Adjustable heavy duty hex. crimp tool 220mm. Jaws: 11.4mm/.448", 8.2mm/.322", & 5.4mm/.213") *Suits 13mmØ RG11 and 9.5mmØ RG6, RG59 conn.* *T33.5+gR59.ig*

HT-106H Adjustable heavy duty hex. crimp tool 220mm. Jaws: 9.12mm/.360", 8.2mm/.324". *Suits 11mmØ & 9.5mmØ RG6 & RG59 connectors, as used for Pay TV.* *T33.5+gR59.ig*

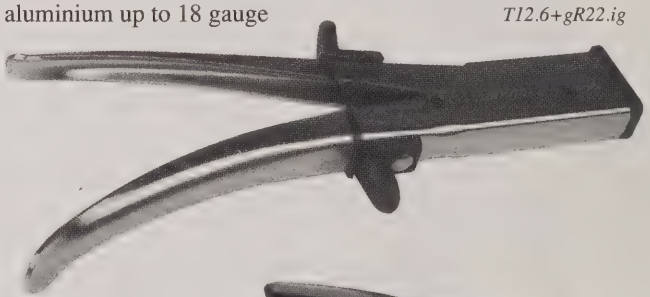
F Connector T Tool

HT-224 T Tool, provides substantial grip and leverage for fitting F connectors. Saves your skin for better things. *T5.+gR9.ig*



Nibbler

HT-204 Nibbler, cuts any shape in copper plastic or aluminium up to 18 gauge *T12.6+gR22.ig*



Mini Cutter

HT-109
Mini. cutters, 5" 45º, insulated handles, spring opening, great in tight spaces. *T5.5+gR10.ig*

Cable Cutter

HT-206 6" cable cutter, insulated handles, spring opening with closed lock, cuts copper cable up to 9mmØ *T8.+gR14.ig*

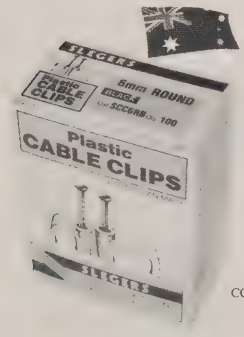
Cabling Accessories

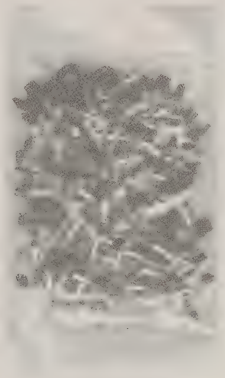
CC6RB Cable Clips 6mm round black, per 100. Suitable for RG59 or RG6 size cables. Steel nails suit wood, plaster or mortar. Clips can sit on cable leaving hands free for nailing. Black colour for long life outdoors. *T3.6+gR6.ig*

CC7RB Cable Clips 7mm round black, per 100. Suitable for RG6 size cables etc. Same family as as CC6RB. *T3.9+gR7.ig*

CC10RB Cable Clips 10mm round black, per 100. Suitable for RG11 size cables etc. Same family as CC6RB. *T4.7+gR8.ig*

C6RB Low Cost Cable Clips 6mm round black. Extra strong nail suitable for even some bricks and concrete! *T2.48+gR4.ig*

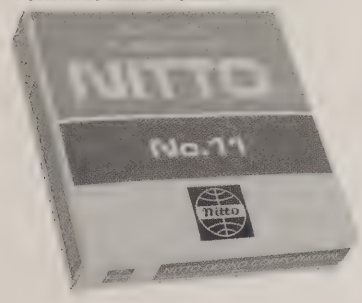




NITTO203 20m x18mm x .18mm Plastic Tape. *T.9+gR2.ig*

TechTip. tape is the recommended way to secure cable to masting as it does not distort cable shape & thereby introduce signal reflections. Black tape lasts in the outdoors better than coloured as carbon black protects the adhesive from destruction by UV rays.

NITTO11 Self Fusing or Amalgamating Tape.
10m x 19mm x .5mm· *T14.5+gR26.ig*



TechTip. stretch & wrap around exposed connectors etc. to weatherproof. Fuses to itself in response to the heat of fingers applying it. Lining prevents bonding before application.

Cable Ties

CT100 100mm x 2.5mm black, bag of 100 *T2.7+gR5.ig*

CT190 190mm x 4.8mm black, bag of 100 *T4.7+gR8.ig*

CT300 280mm x 4.8mm black, bag of 100 *T9.2+gR16.ig*

Cable Ties for securing cables etc. Black colour suitable for outdoor use. *TechTip. not recommended for use with coaxial cable as cable ties indent coax causing reflected signal!*

rf Pressure Pack Service Aids, CFC Free

RF665 *Electronic Circuit Board Cleaner.* Removes flux & muck etc. from PCB's & electrical mechanisims. *T7.+gR12.ig*

RF659 *Freezing Spray.* Rapidy cools material for fault finding and medical procedures etc. *T13.5+gR24.ig*

RF668 *Protek.* Penetrates, lubricates and displaces moisture, electrical and mechanical applications. *T6.+gR11.ig*

RF667 *Dust Off.* High pressure gas for removal of dust and other debris. *T14.5+gR26.ig*

RF661 *Circuit Board Lacquer.* Flexible coating, solder through. Protects contact surfaces, aluminium cable, PCB's & contacts etc. from environmental attack. *T7.5+gR13.ig*

RF664 *Electrical Contact Cleaner Lubricant.* For edge conn., switches and non arcing electrical contacts. *T7.+gR12.ig*

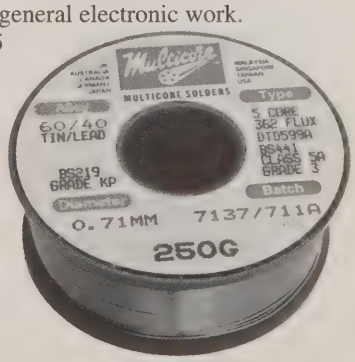
RF658 *Electronic Cleaning Solvent No.1.* Premium quality cleaning solvent for use on delicate electronic and precision mechanical assemblies. *T7.+gR12.ig*

SODER-WICK Desoldering Braid

SW3GR 2.0mm x 1.52m (5ft) Green *T3.24+gR6.ig*
SW4BL 3.05mm x 1.52m (5ft) Blue *T3.63+gR6.ig*

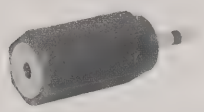
Multicore Solders

A better solder for general electronic work.
60% Tin & 40% Lead, with 5 core 362 type flux.

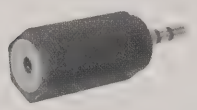


S250 .71 *T5.8+gR10.*
250 grams of .71mmØ
S500 .71 *T11.4+gR20.*
500 grams of .71mmØ
S250 1.25 *T5.6+gR10.*
250 grams of 1.25mmØ
S500 1.25 *T11.+gR19.*
500 grams of 1.25mmØ

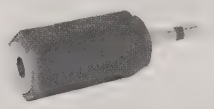
AA2501 *T.83+gR2.ig*
2.5mm Male MONO -
2.5mm Female STEREO



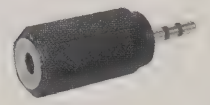
AA2502 *T.83+gR2.ig*
2.5mm Male STEREO -
2.5mm Female MONO



AA2503 *T.83+gR2.ig*
2.5mm Male MONO -
3.5mm Female MONO

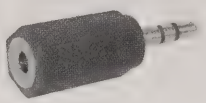


AA2504 *T.83+gR2.ig*
2.5mm Male STEREO -
3.5mm Female STEREO

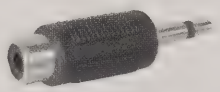


AA3501 *T.83+gR2.ig*
3.5mm Male MONO -
3.5mm Female STEREO

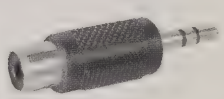
AA3502 *T.83+gR2.ig*
2.5mm Male STEREO -
2.5mm Female MONO



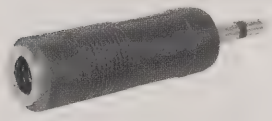
AA3503 *T.83+gR2.ig*
3.5mm Male MONO -
RCA Female



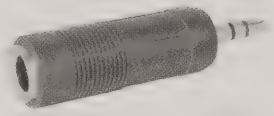
AA3504 *T.83+gR2.ig*
3.5mm Male STEREO -
RCA Female



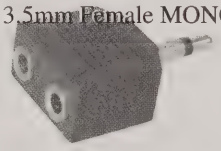
AA3505 *T.92+gR2.ig*
3.5mm Male MONO -
6.35mm Female MONO



AA3506 *T.92+gR2.ig*
3.5mm Male STEREO -
6.35mm Female STEREO

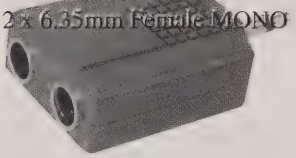


AA3507 *T.92+gR2.ig*
3.5mm Male MONO -
2 x 3.5mm Female MONO

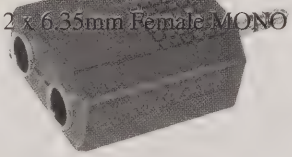


AA3508 *T.92+gR2.ig*
3.5mm Male STEREO -
2 x 3.5mm Female MONO

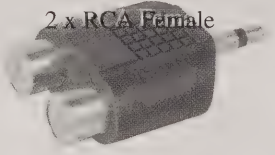
AA3509 *T.92+gR2.ig*
3.5mm Male MONO -
2 x 6.35mm Female MONO



AA3510 *T.92+gR2.ig*
3.5mm Male STEREO -
2 x 6.35mm Female MONO

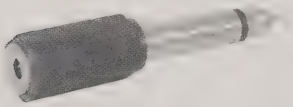


AA3511 *T.92+gR2.ig*
3.5mm Male MONO -
2 x RCA Female

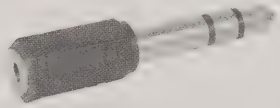


AA3512 *T.92+gR2.ig*
3.5mm Male STEREO -
2 x RCA Female

AA6301 *T.92+gR2.ig*
6.35mm Male MONO -
3.5mm Female STEREO



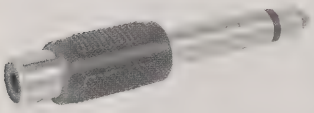
AA6302 *T.92+gR2.ig*
6.35mm Male STEREO -
3.5mm Female STEREO



AA6303 *T.92+gR2.ig*
6.35mm Male MONO -
6.35mm Female STEREO

AA6304 *T.92+gR2.ig*
6.35mm Male STEREO -
6.35mm Female MONO

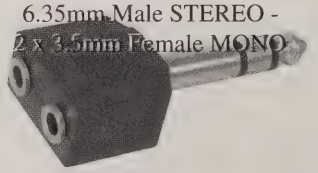
AA6305 *T.92+gR2.ig*
6.35mm Male MONO -
RCA Female



AA6306 *T.92+gR2.ig*
6.35mm Male STEREO -
RCA Female

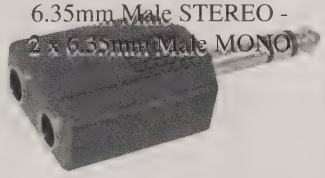
AA6307 *T.92+gR2.ig*
6.35mm Male MONO -
2 x 3.5mm Female MONO

AA6308 *T.92+gR2.ig*
6.35mm Male STEREO -
2 x 3.5mm Female MONO



AA6309 *T.92+gR2.ig*
6.35mm Male MONO -
2 x 6.35mm Male MONO

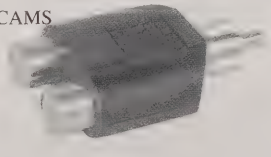
AA6310 *T.92+gR2.ig*
6.35mm Male STEREO -
2 x 6.35mm Male MONO



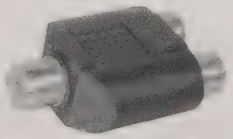
AA6311 *T.92+gR2.ig*
6.35mm Male MONO -
2 x RCA Female

AA6312 *T.92+gR2.ig*
6.35mm Male STEREO -
2 x RCA Female

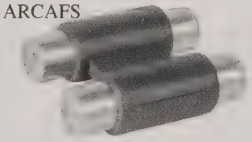
AARC01 *T.83+gR2.ig*
1 x RCA Male - 2 x Female
was ARCAMS



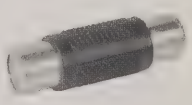
AARC02 *T.83+gR2.ig*
1 - 2 x RCA Female



AARC03 *T.72+gR2.ig*
2 - 2 x RCA Female
was ARCAFS



AARC04 *T.69+gR2.ig*
1 - 1 x RCA Female

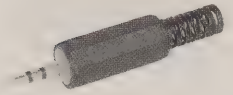


AARC05 *T.92+gR2.ig*
1 x RCA Male -
2 x 3.5mm Female MONO

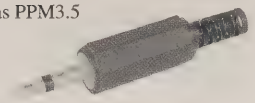
AARC06 *T.92+gR2.ig*
1 x RCA Male -
2 x 6.35mm Female MONO

AP2501 *T.68+gR2.ig*
Phono Plug Male MONO
2.5mmØ, solder type.

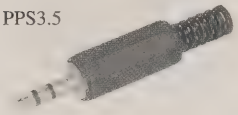
AP2502 *T.68+gR2.ig*
Phono Plug Male STEREO
2.5mmØ, solder type.



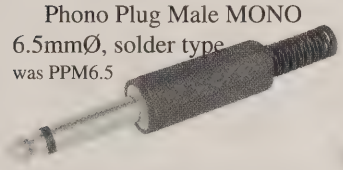
AP3501 *T.56+gR2.ig*
Phono Plug Male MONO
3.5mmØ, solder type.
was PPM3.5



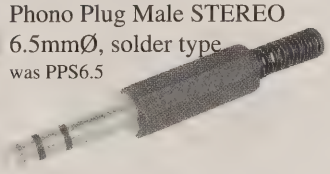
AP3502 *T.66+gR2.ig*
Phono Plug Male STEREO
3.5mmØ, solder type.
was PPS3.5



AP6301 *T.93+gR3.ig*
Phono Plug Male MONO
6.5mmØ, solder type.
was PPM6.5



AP6302 *T1.+gR3.ig*
Phono Plug Male STEREO
6.5mmØ, solder type.
was PPS6.5



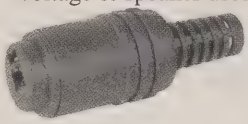
BP01 *T.44+gR2.ig*
Banana Plug, solderless,
Black or Red 'piggy-back'

AJ3501 *T.66+gR2.ig*
Phono Jack Female STEREO
3.5mmØ, solder type.

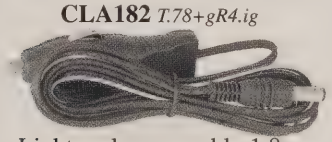
TechTip. *which cable for longer baseband Video and Audio links? 75Ω TV coax is just about ideal. A difficulty has been terminating cable with aluminium braid and foil. RCAM59 and RCAM6 crimp connectors offer a solution. The DC resistance of aluminium braid has little effect on the high circuit impedance, although the heavy copper shielding used in the most professional video cables can be a benefit in noisy RF environments.*

CDIN2M *T.47+gR2.ig*
2 pin Male DIN screw, low
voltage & speaker uses

CDIN2F *T.47+gR2.ig*
2 pin Female DIN screw, low
voltage & speaker uses

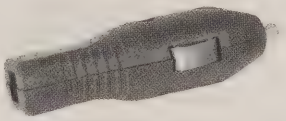


CLA182 *T.78+gR4.ig*

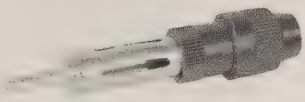


Lighter plug assembly 1.8m
with standard L.V. connector

CLM121 *T.49+gR2.ig*
Car Cigarette Lighter
connector 12-15VDC solder

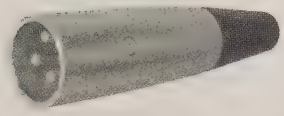


CRCM01 *T.48+gR2.ig*
Car Radio Antenna
connector Male solder

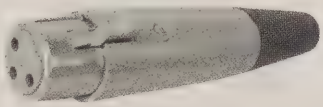


CSVMD4 *T1.+gR3.ig*
MiniDin 4 pin Male for SVHS,
solder type.

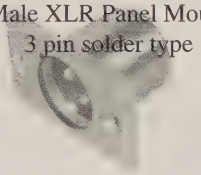
CXLRML *T1.79+gR4.ig*
Male XLR Line 3 pin
solder type



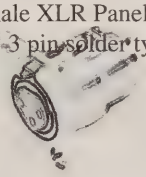
CXLRFL *T1.98+gR4.ig*
Female XLR Line 3 pin
solder type



CXLRMP *T1.69+gR4.ig*
Male XLR Panel Mount
3 pin solder type

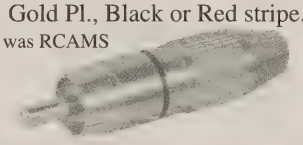


CXLRFP *T1.98+gR4.ig*
Female XLR Panel Mount
3 pin solder type

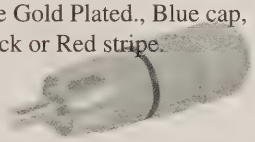


RCAM01 *T.45+gR2.ig*
RCA plug, solder type,
Black or Red colour.
was RCAMP

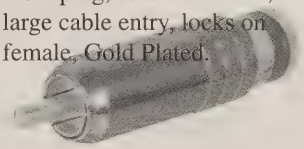
RCAM02 *T1.59+gR4.ig*
RCA plug, shielded, solder
Gold Pl., Black or Red stripe.
was RCAMS



RCAM03 *T1.39+gR3.ig*
RCA plug, shielded, solder
type Gold Plated., Blue cap,
Black or Red stripe.



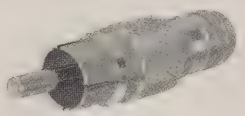
RCAM04 *T3.5+gR7.ig*
RCA plug, screw terminal,
large cable entry, locks on
female, Gold Plated.



RCAF01 *T.46+gR2.ig*
RCA jack, solder type,
Black or Red colour.

RCAF02 *T1.69+gR4.ig*
RCA jack, shielded, solder
Gold Pl., Black or Red stripe.

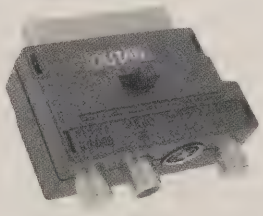
RCAM59 *T.92+gR4.ig*
RCA Male crimp RG59
9.5mmØ



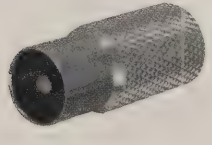
RCAM6 *T.98+gR4.ig*
RCA Male crimp RG6
11mmØ

TechTip. *lock off the end of an MATV trunk line (and unused antenna outlets) with 75Ω terminators, to achieve outstanding system stability.*

SRCI01 *T6.9+gR12.ig*
SCART to RCA and SVHS
adapter with In / Out switch
enabling use in either
configuration ›



TE75PAL *T1.52+gR2.8.ig*
PAL type 75Ω terminator



TE75SC *T.48+gR1.ig*
Screw & Clamp type 75Ω
terminator

FC7014 *T.48+gR1.ig*
F type 75Ω terminator

BA7004 *T1.9+gR4.ig*
BNC Male to F Male

BA7005 *T1.9+gR4.ig*
BNC Male to F Female

BA7008 *T1.9+gR4.ig*
BNC Male to PAL Male

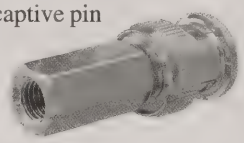
BA7009 *T1.9+gR4.ig*
BNC Male to PAL Female

BA7011 *T1.9+gR4.ig*
BNC Male to RCA Female

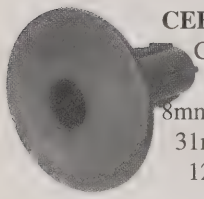
BA7024 *T1.9+gR4.ig*
BNC Female to PAL Male

BA7025 *T1.9+gR4.ig*
BNC Female to PAL Female

BC7007B *T1.4+gR3.ig*
BNC Male twist on RG59
captive pin

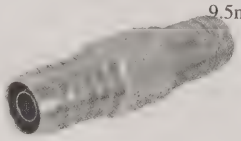


BC7007C *T1.4+gR3.ig*
BNC Male twist on RG6
captive pin

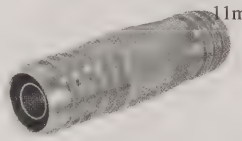


CEF8 *T.23+gR1.ig*
Cable Entry Flange
8mmø cable entry,
31mmØ for 10-12mmø hole.

CJ59H *T.88+gR2.ig*
Coax Joiner crimp RG59
9.5mmØ



CJ6H *T.88+gR2.ig*
Coax Joiner crimp RG6
11mmØ



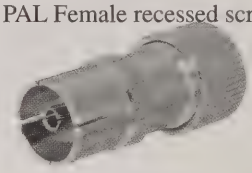
CJ75SC *T.89+gR2.ig*
Coax Joiner Screw & Clamp

EC7003 *T.69+gR2.ig*
PAL Male screw & clamp

EC7004 *T.72+gR2.ig*
PAL Female screw & clamp

EC7005 *T.76+gR2.ig*
PAL Male recessed philips screw

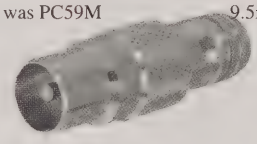
EC7006 *T.79+gR2.ig*
PAL Female recessed screw



EC7007 *T.73+gR2.ig*
PAL Male right angle
easy to fit, fully shielded

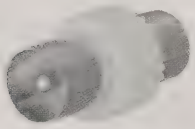
EC7008 *T.76+gR2.ig*
PAL Female right angle
easy to fit, fully shielded

EC7001 *T.92+gR2.ig*
PAL Male crimp RG59
was PC59M 9.5mmØ



EC7002 *T.95+gR2.ig*
PAL Female crimp RG59
was PC59F 9.5mmØ

EC7011 *T.49+gR1.ig*
PAL Male to PAL Male



EC7012 *T.49+gR1.ig*
PAL Female to PAL Female

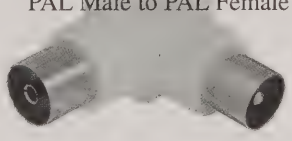
EC7009 *T.93+gR2.ig*
PAL Male crimp RG6
wasPC6M 11mmØ

EC7010 *T.93+gR2.ig*
PAL Female crimp RG6
was PC6F 11mmØ

EC7013 *T.49+gR1.ig*
PAL Male to PAL Female

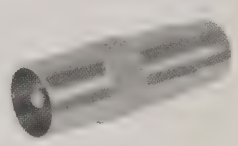
MALE to FEMALE!

EC7014 *T.69+gR2.ig*
RIGHT ANGLE
PAL Male to PAL Female



EC7016 *T.1.20+gR3.ig*
PAL Male to F Female

EC7017 *T1.20+gR3.ig*
PAL Male to RCA Female

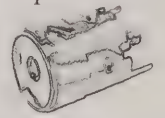


EC7018 *T1.20+gR3.ig*
PAL Female to RCA Female

EC7019 *T1.20+gR3.ig*
PAL Female to RCA Male

EC7021 *T.76+gR2.ig*
PAL Male panel mount
crimp and solder type

EC7022 *T.78+gR2.ig*
PAL Female panel mount
crimp and solder type

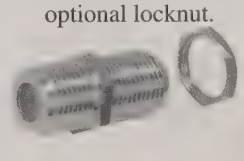


EC7020 *T1.20+gR3.ig*
PAL Female to 3.5mm Male
MONO

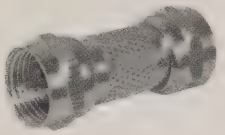
EC7024 *T1.50+gR3.ig*
PAL Female panel mount

EC7025 *T1.20+gR3.ig*
PAL Female / Female
panel mount

FA7001 *T.35+gR1.ig*
F Female to Female,
optional locknut.

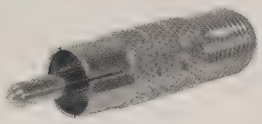


FA7004 *T1.30+gR3.ig*
F Male to F Male threaded



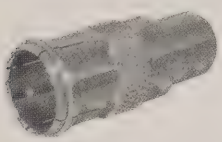
FA7005 *T1.30+gR3.ig*
F Male to F Male *fast* twist on

FA7013 *T1.30+gR3.ig*
F Female to RCA Male

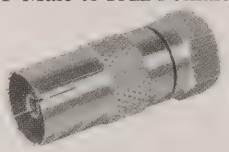


FA7015 *T1.30+gR3.ig*
F Female to RCA Female

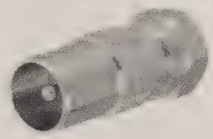
FA7016 *T1.30+gR3.ig*
F Male *fast* - RCA Female



FA7017 *T1.30+gR3.ig*
F Male to PAL Female



FA7018 *T1.30+gR3.ig*
F Male to PAL Male

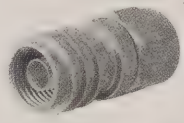


FA7019 *T1.30+gR3.ig*
F Female - PAL Female

FA7022 *T1.30+gR2.ig*
F Male Right Angle
to F Female

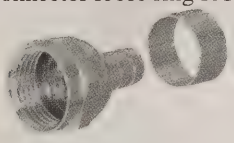
FA7023 *T1.30+gR2.ig*
F Male *fast* Right Angle
to F Female

FCAMF59 *T.65+gR2.ig*
Augat F conn. crimp RG59
11mmØ



FCAMF6 *T.65+gR2.ig*
Augat F conn. crimp RG6
11mmØ

FC7001B *T.25+gR .5ig*
F connector loose ring RG59

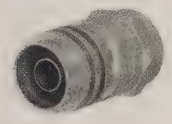


FC7001C *T.25+gR .5ig*
F connector loose ring RG6

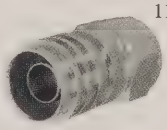
FCSNS59 *T.90+gR2.ig*
Augat F Snap-N-Seal RG59

FCSNS6 *T.90+gR2.ig*
Augat F Snap-N-Seal RG6

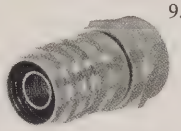
FC7002B *T.47+gR1.ig*
F conn. fixed ring RG59
11mmØ



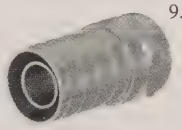
FC7002C *T.47+gR1.ig*
F conn. fixed ring RG6
11mmØ



FC7003B *T.30+gR .8ig*
F conn. fixed ring RG59
9.5mmØ



FC7003C *T.30+gR .8ig*
F conn. fixed ring RG6
9.5mmØ



FC7004B *T.48+gR1.ig*
F conn. O ring and silicone
grease weather seal for RG59
9.5mmØ

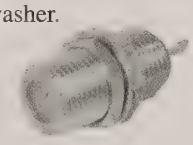
FC7004C *T.48+gR1.ig*
F conn. O ring and silicone
grease weather seal for RG6
9.5mmØ

FC7006B *T.30+gR .6ig*
F twist on RG59

FC7006C *T.30+gR .6ig*
F twist on RG6

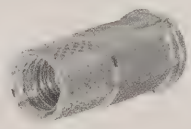
FC7005 *T1.6+gR3.ig*
F conn. RG11 captive
reducing pin 13.5mmØ

FC7024 *T.49+gR1.ig*
F connector bulk head with nut
& washer.

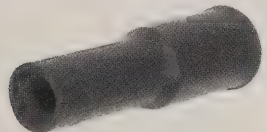


FC7009B *T.45+gR2.ig*
F connector *fast* twist RG59

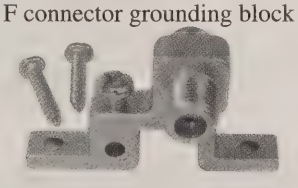
FC7009C *T.45+gR2.ig*
F connector *fast* twist RG6



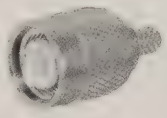
FCBOOT *T.40+gR 1.ig*
Weatherproof F connector boot



FCGB1 *T.60+gR2.ig*
F connector grounding block



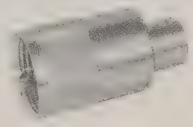
TC7001 *T1.2+gR3.ig*
TNC Male RG58 Gold pl. pin



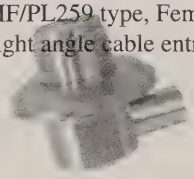
TC7002 *T1.2+gR3.ig*
TNC Male *fast* RG58
Gold plated captive pin

NC7015 *T1.2+gR4.ig*
N type, Female panel mount.

UC7002A *T1.3+gR4.ig*
UHF/PL259 type, Male
heat resistant insulation!

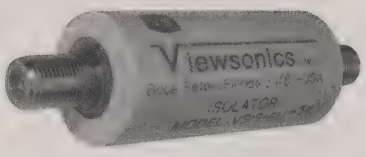


UC7013 *T3.5+gR7.ig*
UHF/PL259 type, Female
right angle cable entry

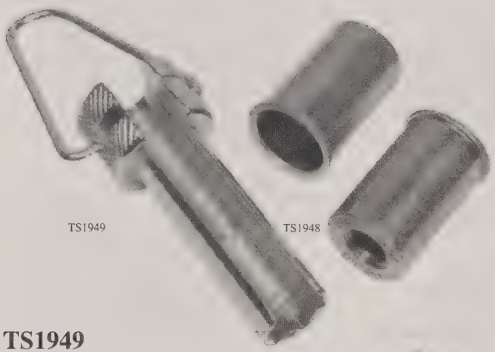


UC7012 *T1.3+gR3.ig*
UHF/PL259 type, Female
panel mount.

MATV & CATV Accessories



IS3kV 3Kv centre conductor and braid isolator. <1dB insertion loss 5-1000 MHz . Blocks potentially dangerous voltages that accumulate in MATV and Cable TV systems. Can provide isolation to non isolated TV outlet plates too. *T6.9+gR13.ig*



TS1948 Tamper proof F connector cap, threaded. Makes access to F connectors very difficult without a TS1949 tool. *T.43+gR2.ig*

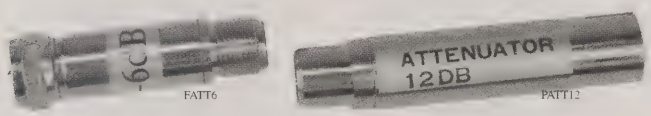
TS1949 Tamper proof cap installation tool. *T12.49+gR23.ig*

TS2012 Theft proof male F 75Ω terminator. TS2011 tool required to remove, helps prevent unauthorized system connections. *T1.26+gR3.ig*

TS2011 Theft proof terminator installation tool. *T4.04+gR8.ig*

Attenuators Fixed Value

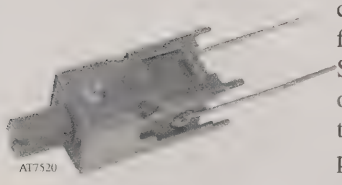
FATT6 Fixed 6dB m-f F type 75Ω atten. *T2.62+gR5.ig*
FATT12 Fixed 12dB m-f F type 75Ω atten. *T2.62+gR5.ig*
FATT24 Fixed 24dB m-f F type 75Ω atten. *T2.62+gR5.ig*



PATT6 Fixed 6dB m-f PAL 75Ω atten. *T2.62+gR5.ig*
PATT12 Fixed 12dB m-f PAL75Ω atten. *T2.62+gR5.ig*
PATT24 Fixed 24dB m-f PAL75Ω atten. *T2.62+gR5.ig*

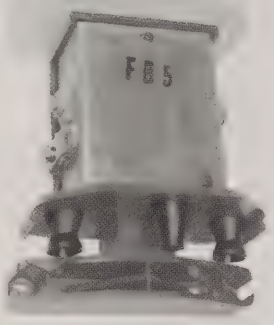
Attenuator Variable

AT7520M Constant impedance 75Ω 0-20dB variable attenuator mounted in shielded case *ready to use*. PAL M to F conn. *T6.05+gR12.ig*



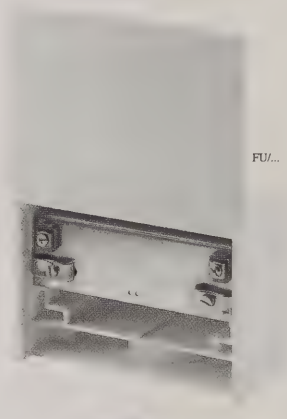
AT7520 0-20dB in 6 turns, constant 75Ω attenuator. Flat freq. response past 820MHz. Solder inside FH-1, behind outlet plates, etc. Don't risk the mismatch problems potentiometers cause when used as variable attenuators. *T4.1+gR8.ig*

Band & Channel Pass Filters



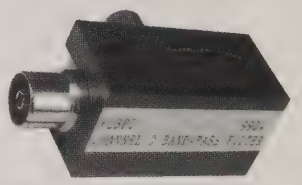
...stop all except spectrum specified. Helps to pull in weaker signals in a busy RF environment. Insertion loss ≤1dB.

FB4 Pass only B4 *T19.+gR34.ig*
FB5 Pass only B5 *T19.+gR34.ig*
F5R../.. Pass one band 3 channel @-≤1dB whilst trapping specified adjacent channel. Made to order only! *T37.+gR65.ig*



FU/AU29 UHF Channel Pass, pre-aligned to Ch.29. Pass band freq. can be altered ±3 channels with care. Made to order for any UHF channel. *T61.+gR102.ig*

FLBP0 Pass channel 0 with 30dB typical out of band rejection and small insertion loss. Clean up RF out from VCR, Sky, etc. *T20.+gR35.ig*



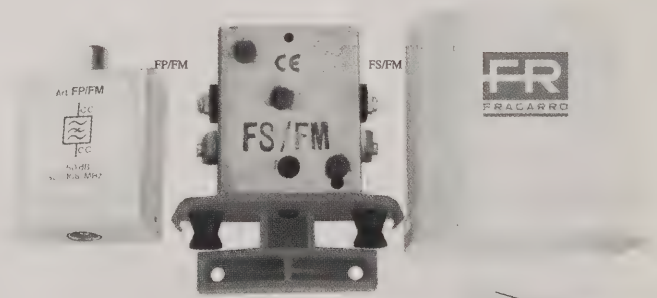
FLBP34 Pass channels 3&4 (FM band) with 30dB typical out of band rejection and low insertion loss. *T20.+gR35.ig*

Kingray

FM Rejection Filters

Eliminate interference from FM radio signals. Most 88-108MHz 2nd harmonics fall in band 3, increasing the incidence of TV interference as FM radio services increase in number.

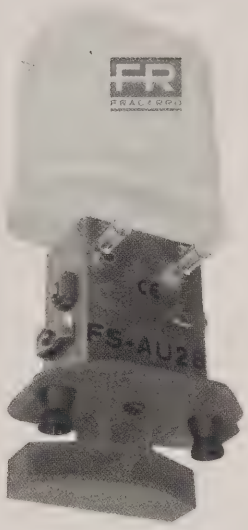
FP/FM -50dB to -55dB 88-108MHz. M-F PAL connectors, indoor use only. *T13.+gR22.ig*
FS/FM -40dB to -50dB 88-108MHz. Weatherproof screw & saddle terminals. *T20.+gR34.ig*



FM-50 Up to -50dB FM filter, PAL type Male to Female conn. *T4.1+gR7.ig*
FM-50F Up to -50dB FM filter, F Female to F Female connectors in FM-50 case, like BL12F. (see p. 33) *T4.1+gR7.ig*

Band & Channel Stop Filters

...reject specified spectrum whilst passing all other frequencies. Insertion loss ≤1dB.



FS/AU28 Prealigned for max. rejection of AuCh.28 to enable reception of weak UHF. Adjustable ±3 channels to reject other B4 channels. Allow 1 Ch. either side. Weatherproof. *T27.+gR46.ig*
FS/..Reject one UHF ch. by 30-40dB and can be made to any channel.

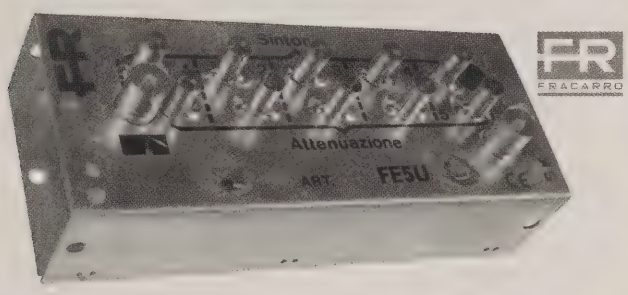
FUA/.. Reject any UHF channel by -40dB to -50dB, specify channel with order. *T55.+gR97.ig*

TechTip. use SF4 to stop masthead amp noise upsetting UHF VCR's etc.

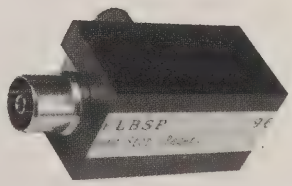
Power Pass SF5 only!

SF4 Band 4, 2 x -20/30dB notches, user tunable.*T25.+gR44.ig*
SF5 Band 5, 2 x -20/30dB notches, user tunable.*T25.+gR44.ig*

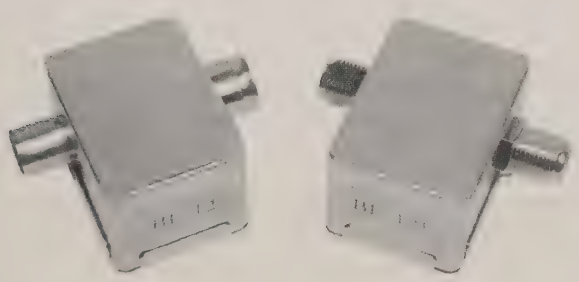
FE5U 5 notch UHF filter with tune & fine tune controls. For use anywhere in UHF band. Attenuation varies with frequency from -6dB to -20dB per notch. *T79.+gR139.ig*



FLBS0 Band stop ch.0 (45-52MHz) with -30dB typical Insertion loss ≤1dB. PAL type M-F connectors. *T20.+gR35.ig*
FLBS34 Band stop ch 3&4 (FM band) with -30dB typical Insertion loss ≤1dB. PAL type M-F connectors. *T20.+gR35.ig*
FLBSP Band Stop 120-160MHz radio by -30dB typical Insertion loss ≤1dB. PAL type M-F connectors. *T20.+gR35.ig*



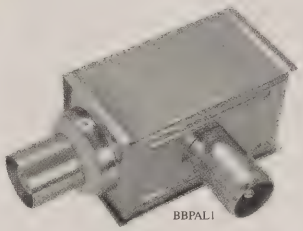
BL-12 Atten. b's 1&2 by -12dB PAL M-F *T4.8+gR8.ig*
BL-12F Atten. b's 1&2 by -12dB F conn. *T4.8+gR8.ig*



TF520HP
520MHz High Pass Filter. Traps signals below 520 MHz typically by ≤45dB. Eliminates 470MHz. Insertion loss ≤1dB.
T30.+gR50.ig

TF820LP 820MHz Low Pass Filter. Traps cellular phone and communications above 820MHz or Australian channel 69 by typically -60dB. Insertion loss ≤1dB. *T30.+gR50.ig*

TF520HP and TF820LP use F connectors and fit insisde the Kingray MHB weatherproof masthead box (page 35).

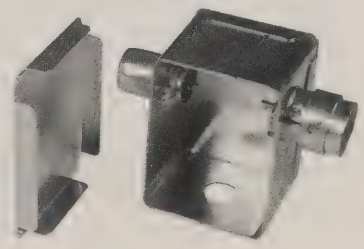


BBPAL1 Braid Breaker with PAL type Male to Female connectors, 5-1,000MHz. Reduce AM radio resonance's in longer coax runs. Most effective near the end of a long cable run.
T8.+gR14.ig

Large Weatherproof Masthead Housing

CN1 Complete with weatherproof cable entry, mast clamp & masonry fix hook. 147mm W x 149 H x 66 D inside! Now you can mount almost anything outdoors. *T14.+gR24.ig*

FH-1 Case with PAL connectors, and 7mm Ø hole for trimmer etc. Use to build your own filters, mount AT7520 etc.
T2.2+gR4.ig



Masthead Amplifiers

ES1/RVU 2 inputs. V&U, +12dB (adj. to +4dB), V & U gain controls, 12V DC@27mA. *T26.+gR43.ig*

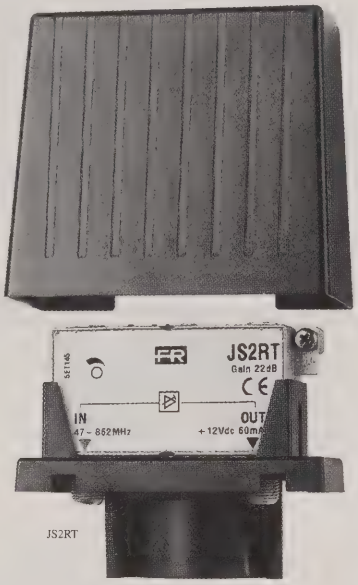
ES1/5MZS 2 inputs. B5 (AuCh.38-75) +11dB, B1,2,3&4 (Ch.0-32) coupled @ -.5dB, 12V DC@25mA. *T29.+gR49.ig*

EM2/L3U 3 inputs. B1&2 +27dB, B3 +28dB, UHF +22dB, 12 VDC@55mA. 12V DC output! *T42.+gR70.ig*

EM2/L3UU 4 inputs. B1&2 +26dB, B3 +26dB, UHF1 +26dB, UHF2 +26dB, 12V DC@50mA. *T49.+gR82.ig*

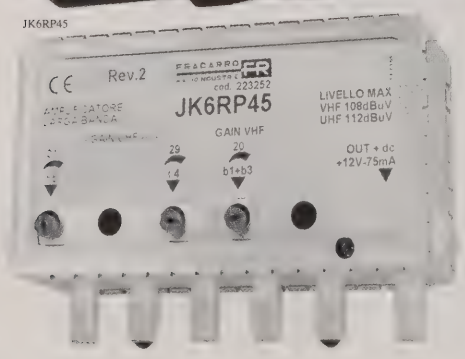
All max. out 105-108dBµV on 2 equal channels.

JS2/RT 1 input. Bands 1,2,3,4&5; 47-862MHz; VHF&UHF. +22dB 1 x -15dB gain control, 110dBµV out, F connectors, 12V DC@60mA. *T25.+gR42.ig*



JK6RP45 3 inputs. B1 +21dB & B3 +19dB; B4 Au Ch 20 to 35 +29dB; B5 Au Ch 39 to 75 +31dB. 3 x -20dB *constant 75Ω* gain controls, F connectors, 12V DC@75mA. *T76.+gR125.ig*

JK6RP45S 3 inputs. B1 +21dB & B3 +19dB; B4 Au Ch 20 to 33 +29dB; B5 Au Ch 37 to 75 +31dB. 3 x -20dB *constant 75Ω* gain controls, F connectors, 12V DC@75mA. *T76.+gR125.ig*



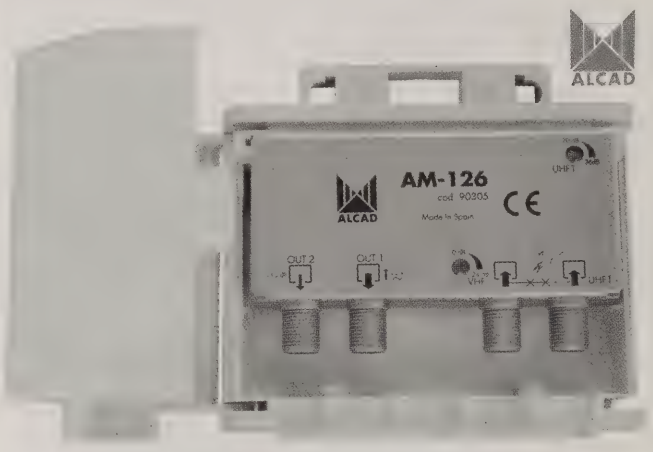
JK6RP45 & ..45S feature isolation between bands 4 & 5 ≥30dB and *constant 75Ω* multi-turn attenuators that preserve performance at reduced gain levels. Max. out 105dBµV B1, 108dBµV B3, 112dBµV UHF. B2 FM interference rejected by ≥30dB. Noise figure ≤5dB. Modifiable to pass 12V DC power to any input!

Alcad *low cost* gain regulated amplifiers are fully RF screened. These new models feature industry standard F connectors and 100% shielding, which improve performance, flexibility and accessibility. Connectors are excluded because of the variety of F connectors in use. Test points which permit in circuit testing but can double as a reduced level output are fitted where possible. Weatherproof ABS housing features improved lock mechanisim. Maximum output on 2 equal channels 106dBµV.

AM-102 (replaces AM-192) UHF only +24dB. 1 input. Fixed Gain, n/f <3dB. 24V DC@50mA. *T25.+gR42.ig*

AM-207 (replaces AM-283) VHF -.5dB, UHF +36dB. 2 inputs. Gain control after first amp. stage, n/f <3dB. 22V AC@50mA. *T30.+gR51.ig*

AM-126 (replaces AM-173) B1&B3 +24dB, B2 FM +14dB (Ch.5A+22dB), UHF +36dB. Single input or cut link for separate VHF and UHF inputs. Gain controls: VHF -24dB & UHF -16dB midstage, n/f <3dB, 22V AC or 24V DC@50mA. Test Point output simplifies in circuit testing. *T30.+gR51.ig*



AM-216 (replaces AM-275) B1&B3 +24dB, B2 FM +14dB (5A+22dB), UHF +36dB, 2 inputs. Gain controls: VHF & UHF after stage 1, nf <3dB, 12V DC@ 60mA. Opt. 12V DC pwr pass to UHF input. *T30.+gR51.ig*

AM-316 (replaces AM-375) B1&B3 +30dB, B2 FM +20dB (5A+30dB), Australian Ch 20-75 +38dB UHF 2 & 1, UHF in 12V DC pwr pass options. 3 inputs & gain controls, UHF 1&2 after stage 1. Noise figure <4dB. 12V DC@45mA. *T51.+gR86.ig*

AM-318.31/34 (replaces AM-366) B1&B3 +30dB, B2 FM rejected, UHF 2 Australian Ch 20-31 +38dB, UHF 1 Au Ch34-75 +38dB. UHF in 12V DC pwr pass options. 3 inputs & gain controls, UHF 1&2 after stage 1. n/f <4dB. 12V DC@45mA. *T51.+gR86.ig*

AM-318.37/40 (replaces AM-366) B1&B3 +30dB, B2 FM rejected, UHF 2 Australian Ch 20-37 +38dB, UHF 1 Au Ch40-75 +38dB. UHF in 12V DC pwr pass options. 3 inputs & gain controls, UHF 1&2 after stage 1. n/f <4dB. 12V DC@45mA. *T51.+gR86.ig*

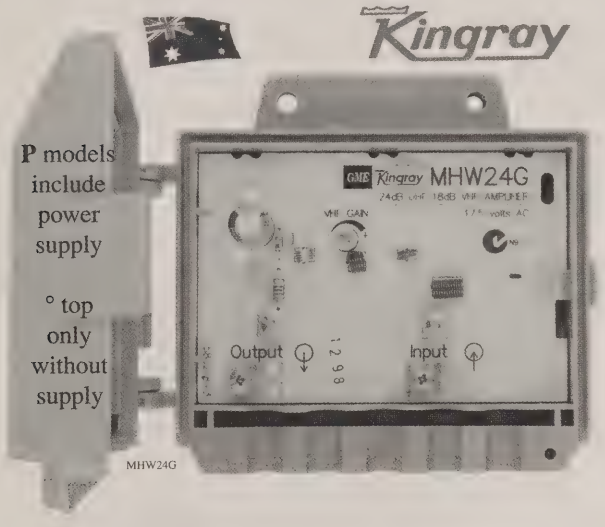
AM-319.37/40 (replaces AM-356) B1&B3 +30dB, B2 FM +20dB (5A+32dB), UHF 2 Australian Ch 20-37 +38dB, UHF 1 Au Ch 40-75 +38dB. UHF in 12V DC pwr pass options. 3 inputs & gain controls, UHF after stage 1. n/f <4dB. 12V DC@45mA. *T51.+gR86.ig*

AM-318 and AM-319 can be ordered for almost any UHF channel input range with at least 2 channels between each input. Minimum order requirement of 100.

MHW24GP +24dB UHF, +18dB VHF, VHF low tilt 4-18dB, 1 input only, 17.5V AC@60MA (includes PSK08) *T39.+gR69.ig*

MHW24G° Amplifier head only, for MHW24GP. Requires PSK08 supply (excluded). *T25.+gR44.ig*

MHU24GP +24dB UHF var.-10dB, -1dB VHF, 2 inputs No combi. option, 17.5V AC@60MA (incl. PSK08) *T39.+gR69.ig*



P models include power supply

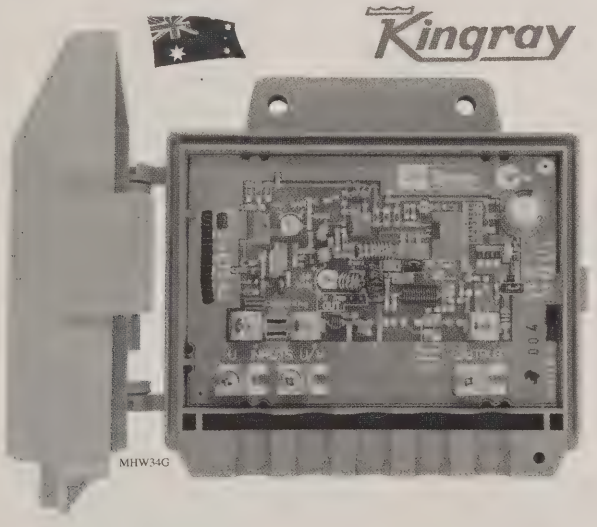
° top only without supply

MHW34GP +34dB UHF, +27dB VHF , 2 inputs combined or separate, each variable by -10dB, FM trap option, 148MHz pager filter, 17.5V/22V AC@85MA (includes PSK08). *T53.5+gR94.ig*

MHW34G° Amplifier head only, for MHW34GP. Requires PSK08 supply (excluded). *T39.5+gR70.ig*

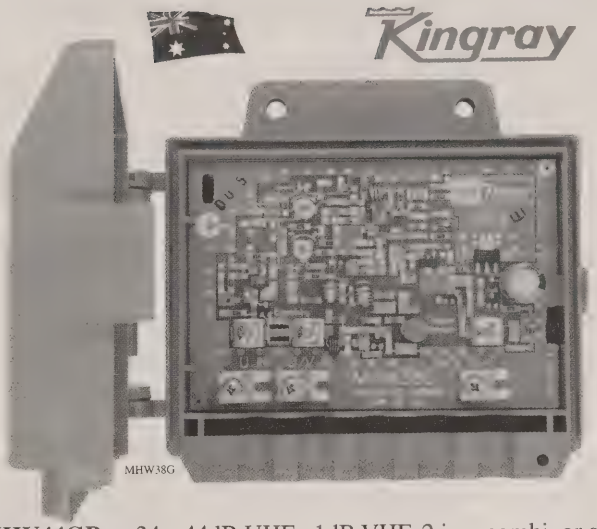
MHW34GIL° As MHW34G for In Line use with another masth. amp. req. PSK09 17.5V@300mA. *T38.+gR63.ig*

MHU34GP +34dB UHF var.-10dB, -1dB VHF, , 2 inputs for combined or separate UHF/VHF antennas power through option, 17.5V or 22V AC@85MA (includes PSK08) *T51.5+gR91.ig*



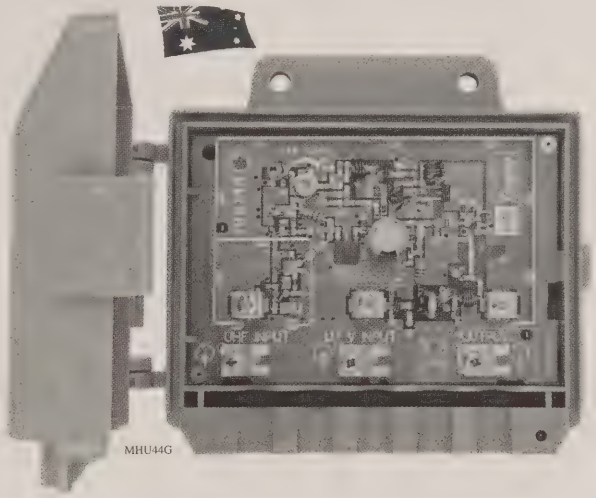
MHW38GP +32-38dB UHF, +20-28dB VHF, 2 inputs combined or sep. each variable by -10dB, FM trap, Pager Notch (freq. adj.), 17.5V AC@100MA (incl. PSK08) *T62.+gR109.ig*

MHB Weatherproof Masthead Box to fit any Kingray masthead amplifier or the Kingray trade filter range. *T5.+gR9.*



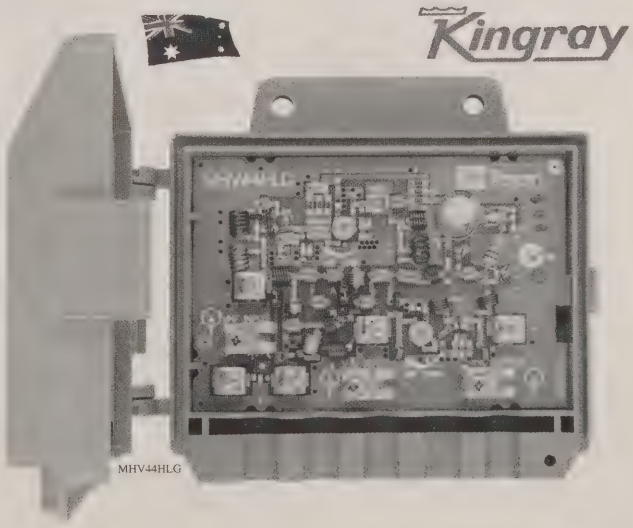
MHU44GP +34-+44dB UHF, -1dB VHF, 2 inp. combi. or sep., 17.5V AC or 14V DC@100MA (incl. PSK08) *T64.+gR133.ig*

MHU44B5GP +34-+44dB B5, -1dB VHF&B4, 2 in's combi. or sep., 17.5V AC or 14V DC@100MA (incl. PSK08) *T67.+gR118.*



MHV34° +38dB VHF -.5dB UHF, 17.5V AC@55mA requires PSK08. High gain VHF only amplifier. 75Ω or 300Ω VHF input option. *T47.+gR83.ig*

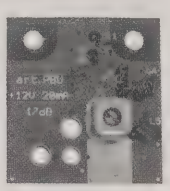
MHV44HLG° +44dB B3, +10dB UHF, B1&2 to Au5A select Stop or Mix @-.5dB via U/V input. Gain controls VHF -18dB UHF-10dB. 75 or 300Ω VHF input option. 17.5V AC @55mA requires PSK08. High gain B3 VHF masthead amp. *T55.5+gR98.ig*



Balun Preamplifiers

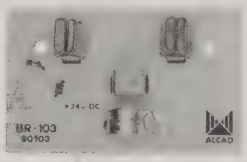
Balun Preamplifiers fit inside the antenna, right on the dipole, amplifying every microvolt the antenna develops. As the magic is done between the antenna and the first transistor, the output can then be further amplified without substantial loss of quality.

PBU Fits FR antennas PU4A, PU4, P54, & BLU series etc. +17dB 470-862MHz., <2dB noise, 12VDC@20mA *T22.+gR32.ig*



BR-103 Fits Alcad AP-369 +14dB 470-860MHz. 1.5dB noise, 24V DC *T19.+gR32.ig*

BR-105 Fits Alcad AP-369 +14dB 470-860MHz. 1.5dB noise, 12V DC *T19.+gR32.ig*



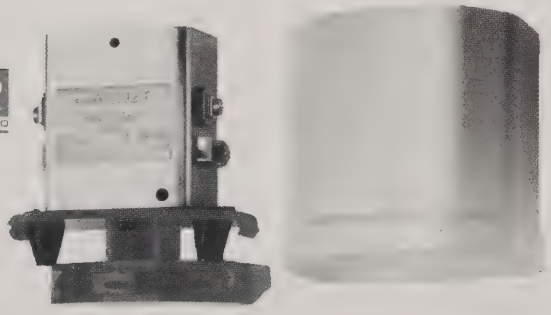
PA-400 Fits Fagor Fantennas +18dB 470-860MHz. <3dB noise, VHF mix @-1dB, 24V DC@15mA. Wires at input enable use in antennas other than Fagor too. *T19.+gR32.ig*

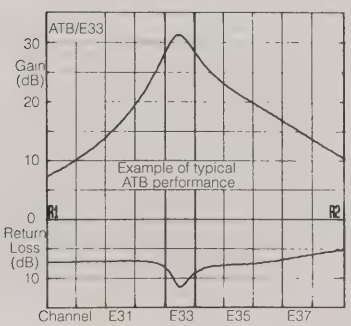
Single Channel Masthead Amplifiers

Masthead amplifiers that amplify one TV channel only. Eliminates interfering signals, and enables better MATV results from weak signals. Specify channel with your order.

ATB/.. +30dB on specified UHF channel, 4dB noise, 12V DC@7mA. ATB/AU30 available from stock.
Brown Terminal: Output & Power Supply *T68.+gR114.*

AT2/.. +30dB on specified VHF channel, 4dB noise, 12V DC@7mA. Australian B.3 channels generally ex stock.
Brown Terminal: Output & Power Supply *T59.+gR104.*





Power Supplies for Masthead Amplifiers

PI-8AL Injector only with LED, use with any Low Voltage power supply. PAL type connectors. *T5.1+gR11.ig*

PS12DCP 12V DC 150mA supply, injector with Green LED indicator, Short Circ. Protected, PAL connectors. *T15.+gR26.ig*
PS15DCP 15V DC 150mA supply, injector with Green LED indicator, Short Circ. Protected, PAL connectors. *T15.+gR26.ig*
PS22ACP 22V AC 100mA supply, injector with Green LED indicator, Short Circ. Protected, PAL connectors. *T14.+gR25.ig*
PS22ACF 22V AC 100mA supply, injector with Green LED indicator, Short Circ. Protected, F connectors. *T15.+gR26.ig*
PS24DCP 24V DC 100mA supply, injector with Green LED indicator, Short Circ. Protected, PAL connectors. *T15.+gR26.ig*

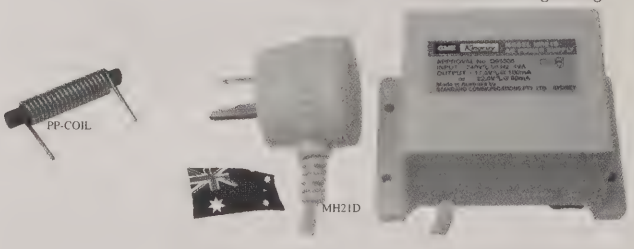
THE BEST QUALITY PLUG PACK SUPPLY PROVEN BY TEST.

SHORT CIRCUIT PROTECTION IN INJECTOR AWAY FROM TRANSFORMER HEAT

GREEN LED ACTIVITY INDICATOR INCLUDED.

PSK01 Kingray 12V DC 100mA supply with injector, Short Circuit Protected, PAL connectors. *T17.+gR30.ig*
PSK02 Kingray 22V AC 100mA supply with injector, Short Circuit Protected, PAL connectors. *T16.+gR28.ig*
PSK06 Kingray 14V DC 150mA supply with injector, Short Circuit Protected, PAL connectors. *T17.+gR30.ig*
PSK08 Kingray 17.5V AC 100mA supply with injector, Short Circuit Protected, PAL connectors. *T14.+gR25.ig*
PSK09 Kingray 17.5V AC 300mA supply Heavy Duty with injector, Short Circ. Prot., PAL connectors. *T25.+gR44.ig*

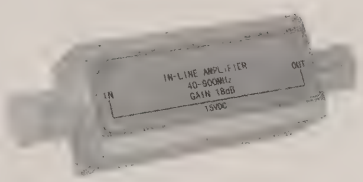
MH21D Kingray 22VAC or 17.5VAC 100mA supply with splitter and 2 outputs, screw & saddle terminals, Short Circuit Protected. *T38.+gR67.ig*



PP-COIL Passes DC and low freq. AC whilst blocking radio frequencies. Allows power injection to coax from the internal supply of a distribution amplifier, etc. Ferrite former 12mm long, wire ends 9mm apart. *T.48+gR1.ig*

Line Amplifier Fixed Gain

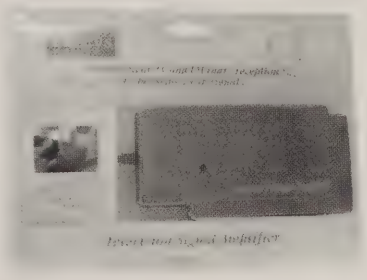
LA1-18F *New* low cost line amplifier.
1 input +18dB VHF/UHF 40-900MHz fixed gain.
1 output, 103dBµV max., nf <5dB typ. F Female connectors. PS12DCP or other 12V DC line power supply required. *T17.+gR36.ig*



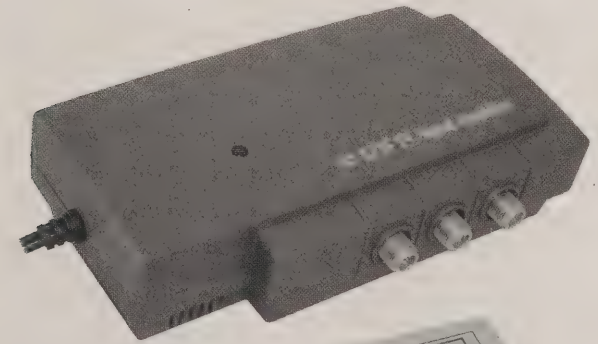
Splitter Amplifiers Fixed Gain

AS222P 1 input +22dB VHF/UHF -4dB split loss, fixed.
2 outputs, 103dBµV max., nf <6dB typ.
PAL Female connectors. Onboard 240V mains supply. *New* low cost amplified splitter. Attractive Blister Pack. Barcoded.
T24.+gR41.ig

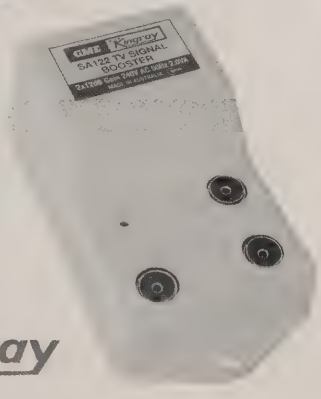
TechTip. do not install amplifiers or any active electronic device in ceiling space as the extreme temperatures will shorten product life and may lead to denial of warranty claim.



AS222F 1 input +22dB VHF/UHF -4dB split loss, fixed.
2 outputs, 103dBµV max., nf <6dB typ.
F Female connectors. Onboard 240V supply. *T26.+gR44.ig*



SA122 1 input +18dB VHF/UHF -4dB split loss, fixed.
2 outputs, 98dBµV max., nf <6dB typ. PAL Female connectors. Onboard 240V supply. *T29.+gR51.ig*



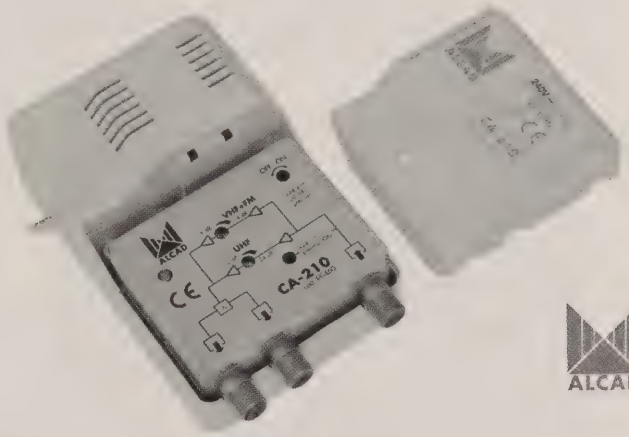
Kingray

DistributionAmplifiers Variable Gain

AI-100 1 input +16dB VHF, +26dB UHF -4dB.
Gain controls VHF-16dB & mid stage UHF-12dB.
1st output: max.104dBµV, nf<4.5dB typ.
2nd output: -14dB for use as test point or reduced level output.
F female connectors. Onboard 240V mains supply.*T38.+gR67.ig*

ALCAD

CA210 1 input +28dB VHF +29dB UHF -4dB split loss.
Mid stage gain controls VHF-16dB & UHF-12dB.
2 outputs, Max. 102dBµV, nf<4.5dB typ.
F female connectors. Line amplifier 24V DC option to input.
Onboard 240V mains supply. *T45.+gR79.ig*



ALCAD

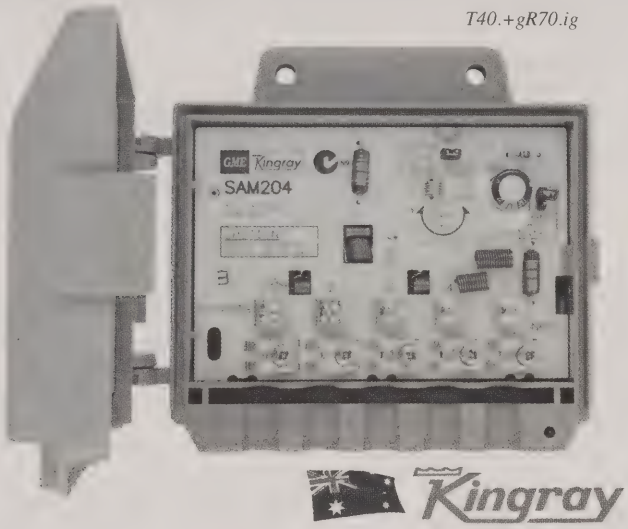
SA124 1 input +17dB VHF (slope adj) & UHF, -7dB split loss. Slope equalization -2 to -6dB VHF.
4 outputs, Max. 102dBµV, nf<6dB typ. PAL female connectors. Onboard 240V mains supply.
T53.5+gR94.ig

SA124R 1 input +17dB VHF (slope adj.) & UHF -7dB split loss. Slope equalization -2 to -6dB VHF.
4 outputs, Max. 102dBµV, nf<6dB typ.
F female connectors. 14V DC Remote Powered external PSK06 supply included. *T62.+gR109.ig*

SA124 SA124R

SAM204 1 input +17dB VHF (slope adj.), +19dB UHF -7dB split. Slope equalization -2 to -6dB VHF.
4 outputs, Max. 98dBµV, nf ≤7dB typ.
Screw & Saddle terminals. 14V DC requires PSK06 (not included) diode controlled power from any or all outputs. Weatherproof masthead case allows use indoors or out!

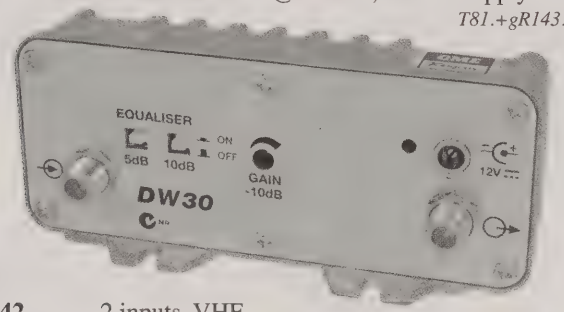
T40.+gR70.ig



Kingray

DW30 1 input +30dB VHF & UHF 40-860MHz.
Gain adj. -10dB, Slope equalization 5dB & 10dB.
1 output, max. 102dBµV, nf ≤7dB typ.
F female connectors. 12V DC @260mA, PSK12 supply incl.

T81.+gR143.ig



DW42 2 inputs, VHF +35dB B1&2, +37dB B3, UHF +40dB. 3x -20dB gain adj. 44-144, 174-300, 470-860MHz.
Mixed or separate U/V inputs, selectable.
1 output, max. 117dBµV, nf ≤7dB typ. F female connectors. 14-18VDC via PSK18S Supply (excluded).

T142.+gR250.

Kingray

DA43 1 input 43dB, 40-860 MHz High Output amplifier.
1 output max 117dBµV. -20 dB midstage gain control, up to 15 dB slope eq. Cost effective solution for multi-channel projects. Shielded diecast housing similar to DW42. Stand alone or rack mount options. Powered by PSK18S external supply (excluded) or 18V DC @300mA to input. Through switch to line power another amp.

T159.+gR280.ig

PSK-18S External DC supply 18V DC *T21.+gR37.ig*

JH7RP45AU 3 inputs +29dB B1&B3; +29dB B4, +30dB B5
3 x -20dB -20dB *constant 75Ω* gain controls.
>30dB isolation between inputs improves control.
1 output, 108dBµV VHF, 110dBµV UHF max.
nf≤ 3.5dB VHF, ≤5.5dB UHF, F female connectors. Onboard 240V supply, regulated 12V DC out to any input. Separate band 4 and band 5 inputs makes this quality amplifier useful for combining off air UHF with VCR's, Pay TV, etc.

T139.+gR245.ig

J22B 1 input, VHF +20dB UHF +20dB.
-20dB *constant 75Ω* gain control and -20dB slope adjustment.
1 output, 117dBµV maximum, nf ≤10dB typical.
F female connectors. 240V mains with 12V DC internal supply rail. High output levels thanks to Push-Pull technology. Applications include line amplification after head end etc.

T168.+gR295.

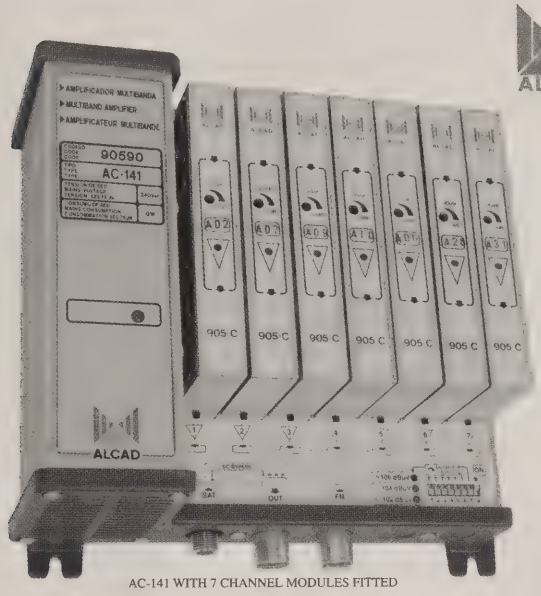
J33B 1 input, VHF +30dB UHF +30dB.
-20dB *constant 75Ω* gain control and -20dB slope adjustment.
1 output, 117dBµV maximum, nf ≤10dB typical.
F female connectors. 240V mains with 12V DC internal supply rail. High output levels thanks to Push-Pull technology. Applications include line amplification after head end etc.

T207.+gR365.

XC/D11TRVU 1 input +10dB@119dBµV VHF&S, +10dB @124dBµV UHF 1 output. Extra high output level amplifiers, useful for high channel load MATV or re-transmission. 220V ±10% mains supply with 12V DC internal supply bus! VHF & S band and UHF -20dB *constant 75Ω* gain controls. *T279.+gR491.ig*

Single Channel Amplifiers, Medium Output

Single channel control with high gain and respectable output levels. Seven channel modules fit each complete base and power supply. Extends simply to 14 channels in a system. On board signal level measurement system included! An ideal solution for Pub & Club systems with off-air, Pay Sports services, Keno, & VCR's etc. No additional links or terminators required.

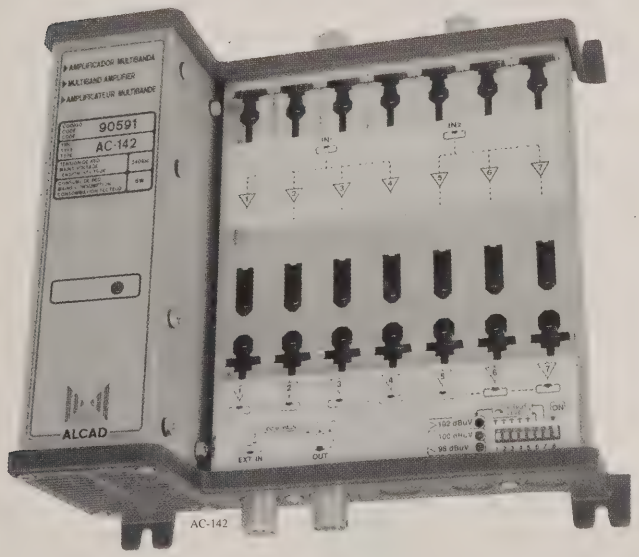


AC-141 WITH 7 CHANNEL MODULES FITTED

TechTip. system is switched on when the first 7 dip switches are down or off and the 8th switch is up or on. The first 7 switches are for channel by channel signal level measurement only.

AC-141
4 modules 1st input, 3 modules 2nd input. B2 (FM) and Sat. IF pass. Extend w. AC- 142. PAL conn. 240V AC. *T129. +gR216.ig*

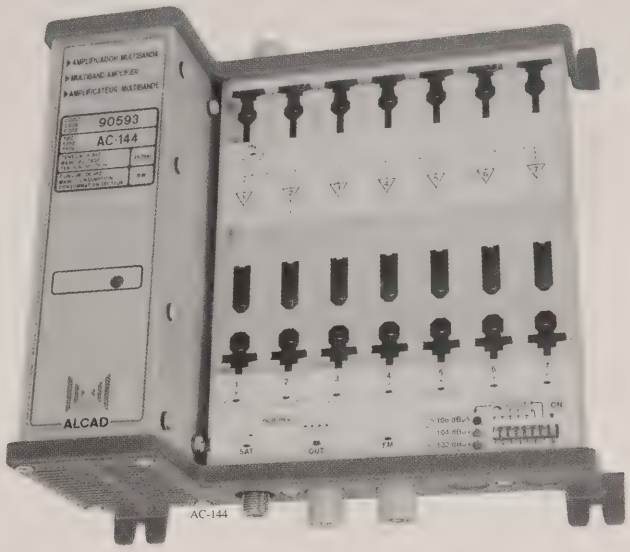
AC-142
4 modules 1st input, 3 modules 2nd input. Extends any other base to 14 channels. PAL type conn. 240V AC. *T129. +gR216.ig*



AC-142

AC-143
5 modules 1st input, 2 modules 2nd input. B2 (FM) and Sat. IF pass. Extend with AC-142. PAL type conn. 240V. *T129. +gR216.ig*

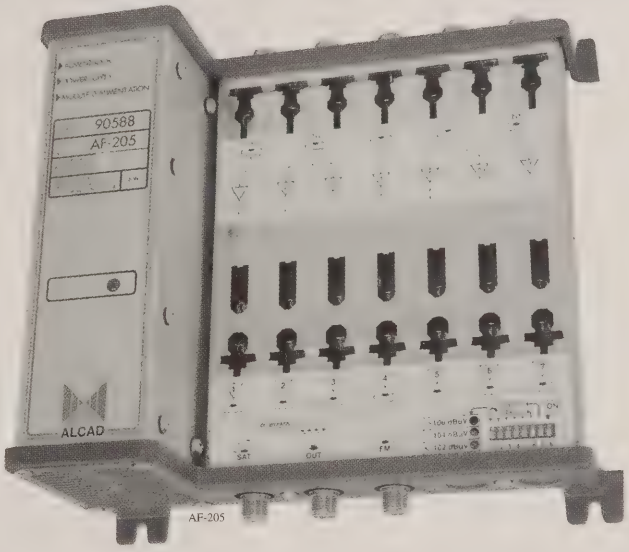
AC-144
1 input to all 7 modules. B2 (FM) and Sat. IF pass. Extend with AC-142. PAL type connectors. 240VAC. *T129. +gR216.ig*



AC-144

AF-205
5 separate inputs to 7 modules (3xl, 2x2). Sat. Ist I.F. and B2 inputs. Extend with AC-142. F conn. 240V AC. *T129. +gR216.ig*

One CH-101, CH-301, CH401 filter & amplifier module is



AF-205

required for every TV channel to be passed by AC-141 through AF-205. Typical selectivity for a UHF module provides a bandpass envelope less than 20MHz wide 25dB down.

CH-101 B1 single channel module, +36dB gain, -20dB mid stage adjust., 104dBµV out 7 equal channels, nf <4dB typ. 24V DC @ 14mA. *T49.+gR82.ig*

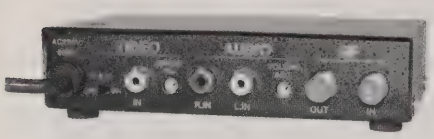
CH-301 B3 single channel module, +36dB gain, -20dB mid stage adjust, 104dBµV out 7 equal channels, nf <4dB typ. 24V DC @ 14mA. *T49.+gR82.ig*

CH-401 UHF single channel module, +42dB gain, -20dB mid stage adjust, 104dBµV out 7 equal channels, nf <4dB typ. 24V DC @ 14mA. *T49.+gR82.ig*

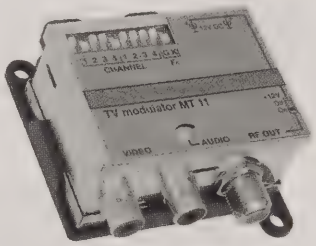
Pre aligned CH- modules are available from stock for most VHF Australian channels and every 3rd UHF Australian channel.

Low Cost AV Modulators

LM-167U 470-550MHz Au. Channels 20-31 *T54.+gR96.ig.*
Double sideband modulator, F type RF and RCA A/V connectors. Oscillator adjustable over 470-550MHz. Video and 2 Audio inputs, levels adjustable. Broadband RF antenna mixer, Test Pattern Generator and LED activity indicator included. 240V AC on-board power supply included. No output filter.



MT-11 470-862MHz Ch.A22-75 UHF. *T60.+gR106.ig.*
Compact double sideband modulator, quality European design. F type RF output and RCA A/V input connectors. Microprocessor controlled via crystal locked PLL for $<10^{-5}$ frequency stability. Video input 1V @ 75Ω, Audio input 775mV @ 10kΩ level adjustable. Channel changes implement after power down. 12V DC ±5% @130mA required, supply excluded. 2 x 2.1/5.5mm DC connectors permit multiple MT-11's to share same power supply. Option to Line Power via RF Out can be used with SP42GD family (p.18) and PI2G (p.55) to power from a common 12V regulated supply (excluded) whilst mixing several MT-11's. No output filter.



TechTip. do not install modulators or any active electronic device in ceiling space as the extreme temperatures shorten product life and may lead to denial of warranty claim.

AV Modulators Kingray

NEW double sideband modulator for stand alone or head end applications. 250KHz freq. steps PLL stable with continuous coverage (MD-100V incl. band 2.), 65-105dBμV out. Video 1Vpp@75Ω; audio >.1V @10KΩ; mount holes 170mm apart, stand alone or rack mount option.

MD-100V 44-320MHz. Ch.A0-12+ requires PSK-18S. *T172.+gR303.ig.*
MD-100U 470-860MHz. Ch.A20-75 requires PSK-18S. *T172.+gR303.ig.*
PSK-18S External DC supply 18V DC *T21.+gR37.ig.*

TechTip. band selective or channel selective mixing should be used as no output filtering is provided. Mixing with broadband splitters or combiners can invite system trouble down the track.

Kingray

AV Modulators Alcad

Modulate PAL AV signal to any Australian TV channel with Alcad MS series double sideband modulators. 82dBμV out; Video 1Vpp@75Ω; Audio 1.5V@20KΩ; 240V AC @3W. Mains powered, the ZG modulators mount on a larger frame than Alcad ZG series amplifiers but is still mechanically compatible if MS-011 mounting rack is used.

MS-101	Ch.A0-2	*T249.+gR439.ig*
MS-301	Ch.A6-11	*T249.+gR439.ig*
MS-401	Ch.21-69	*T259.+gR456.ig*

AV Modulators FR Ambra Series

TMV/TMU double sideband modulate any PAL Audio/Video to any European TV channel. Physically and power supply compatible with FR Ambra modules. Includes internally generated test pattern that can be used with a local radio or any audio to deliver radio to motel or hotel rooms, hospitals, etc. by TV. 80-90dBμV out; Video 1Vpp@75Ω; Audio 500mV RMS @10KΩ; Freq. Stability <30KHz; 12V DC @150mA.

TMV	Ch.E5-12, D-H1, S11-29.	*T489.+gR597.ig*
TMU	Ch.E21-69.	*T519.+gR913.ig*

FRACARRO

AV Modulators Vestigial Sideband FR K series

KMV Fracarro VHF VSB modulator. User programmable via KTP over 174-380MHz. Output level 80dBμV. 12V DC @ 170mA. *T309.+gR544.ig*

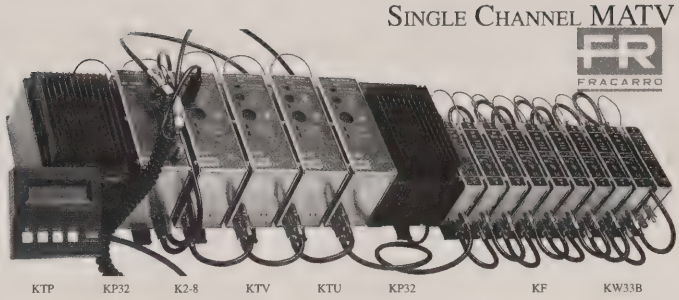
KMU Fracarro UHF VSB modulator. User programmable via KTP over 470-862MHz. Output level 80dBμV. 12V DC @ 170mA. *T309.+gR544.ig*

TechTip. to ensure spectral purity a KF/.. or K120/.. module should be used.

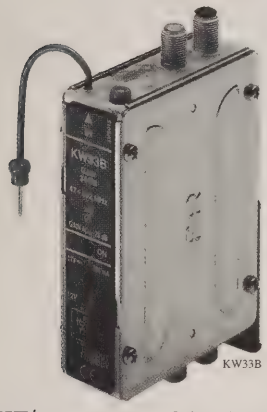
FRACARRO

K Series MATV Electronics

A growing range of MATV head end products that combine the benefits of F connectors with Fracarro's broad MATV experience, to provide functional excellence without high cost. Included in the range are Digital and analogue Satellite receivers, QPSK amplifiers and the Worlds first addressable QPSK to QAM Transmodulator. K series uses F connectors exclusively.



K series Amplifiers



K120 WITH AGC AVAILABLE EARLY IN 2002

KF/.. & K120/.. ALSO AVAILABLE FOR CHANNELS S11-S38, HIGHLY SELECTIVE AS PER TRACE BELOW

KF/.. +9dB VHF, 11dB UHF, maximum out 95dBµV. Gain adjustable by 45dB VHF, 35dB UHF. 12V DC@20-38mA. Selective single channel amplifiers. Resonant filters in each channel amp: 5 for VHF and 4 for UHF. *T84.+gR148.ig*

K120/.. +45dB gain, maximum out 121dBµV. Gain adjustable by 40dB VHF, 30dB UHF. 12V DC@180-200mA. Selective single channel amplifiers. Resonant filters in each channel amp: 5 for VHF and 4 for UHF. *T129.+gR227.ig*

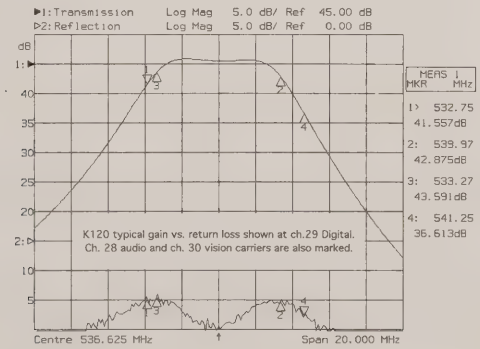
KFB4 All Band 4 (470-590MHz) amplifier +13dB, -20dB *constant 75*Ω gain control, 3 notch filters of ~15dB atten. each, nf≤4dB, 12V DC@130mA. Can be incorporated with K series single channel modules although care should be taken to avoid channel conflicts. *T109.+gR192.ig*

KFB5 All Band 5 (606-862MHz) amplifier +11dB, -20dB *constant 75*Ω gain control, 3 notch filters of ~15dB atten. each, nf≤4dB, 12V DC@130mA. Can be incorporated with K series single channel modules although care should be taken to avoid channel conflicts. *T109.+gR192.ig*

KW33C High output broadband amplifier, +34dB gain, maximum out 121dBµV. Gain adj. 20dB, Slope adj. 20dB. 12V DC@510mA, final amp. after KF/.. mod. etc. *T229.+gR403.ig*

KW44C High output broadband amplifier, +44dB gain, max. out 121dBµV. Gain adj. 20dB, Slope adj. 20dB. 12V DC @550mA, final amp. after KF/.. modules etc. *T249.+gR438.ig*

KW.. 'B' with 116dBµV out and no slope adjustment cost less.



K series Return Path Amplifiers

KW530 Amplify 5-30MHz Return Path buy up to 20dB, nf ≤5dB, 105dBµV max. Connect between Headend Out and System. 47-862MHz Out and In terminals permit Amplification via KW33 etc., Pass or Stop @ <-1.5dB; 12V DC @30mA.

KW540 As KW530 for 5-40MHz return, 54-862MHz fwd.

K series TV Channel Converters

Frequency synthesizer adjustable in 250 KHz steps with KTP programmer, input filters adjust manually. Use KF/.. or K120/.. for output filtering. 12V DC@120mA. *T249.+gR439.ig*

KK1-U Input range 47-68MHz Output range 470-862MHz.
KKU-1 Input range 470-862MHz Output range 47-68MHz.
KK3-4 Input range 174-230MHz Output range 470-606MHz.
KK4-3 Input range 470-574MHz Output range 174-286MHz.
KK5-3 Input range 574-702MHz Output range 174-286MHz.
KK6-3 Input range 702-862MHz Output range 174-286MHz.

K series Analogue Satellite TV Processors

KTV Converts any analogue satellite TV signal from 920-2,150MHz to anywhere within 174-380MHz. 90dBµV output (adj.-15dB) and internal Tracking Filter make KTV compatible with KF/.. modules for off-air and other channels. *T849.+gR1494.ig*

KTU Converts any analogue satellite TV signal from 920-2150MHz to anywhere within 470-862MHz. 90dBµV output (adj.-15dB) and internal Tracking Filter make KTV compatible with KF/.. modules for off-air and other channels. *T849.+gR1494.ig*

KTV-SF Converts any analogue sat. TV signal from 920-2150MHz to anywhere within 174-380MHz. Tracking filter excluded, for use with K120/.. or similar. *T794.+gR1397.ig*

KTU-SF Converts any analogue satellite TV signal from 920-2150MHz. to anywhere within 470-862MHz. Tracking filter excluded, for use with K120/.. or similar. *T794.+gR1397.ig*

ALSO AVAILABLE WITH DOUBLE SIDEBAND MODULATOR

K series Digital Satellite TV Receiver

KDR Free To Air MPEG2-DVB receiver for symbol rate ≤ 36 MS/s, with automatic Forward Error Correction. Data stream bus allows interconnection to KDD modules. Input 950-2,150MHz. Data Stream Bus and A/V outputs. 4:3 or 16:9 video aspect ratio. 12V DC @800mA. *T1079.+gR1899.ig*

KDD Free To Air MPEG2-DVB receiver, KDR spec. with Data Stream Bus input only, permitting reception of additional channels from the same digital bouquet. A/V outputs. 12V DC @ 400mA. *T949.+gR1670.ig*

K series QPSK - QAM Transmodulator

KDTS VL-C2 *NEW* QPSK - QAM Digital Transmodulator. Converts digital satellite signals to more robust QAM for distribition around an MATV cable system. Conditional Access systems like IRDETO are transparent permitting use with Foxtel, Austar, Optus Aurora etc. Automatically selects QAM modulation according to FEC and Symbol Rate of input: 16, 32, 64 or 128QAM. Symbol Rate range 10 - 32Ms/s. FEC 1/2, 2/3, 3/4, 5/6, or 7/8. Max output 90dBµV. 12V DC @ 530mA. KTP programmer required. Instructions and specifications available as a .pdf.*T998.+gR1755.ig*

K series 2GHz Satellite TV Accessories

KIF-IF Avoid 1st IF frequency clash! Convert any satellite TV 1st I.F. bandwidth of 27 or 36MHz to anywhere within 950-2,150MHz so it can be mixed with other satellite signals. In 47-77dBµV, out 80-90dBµV. 12V DC@450mA. *T459.+gR808.ig*

KS3TB 3 input Sat IF coupler of digital IF's for simultaneous distribution. Plan to avoid Input 3 conflicting in frequency with other inputs! KIF-IF frequency processing may be necessary for Input 1 to pass IF. K series housing with F connectors. *T139.+gR245.ig*

Input 1: 1723-2150MHz, ins loss 6dB, ret loss >10dB
Input 2: 1148-1491MHz, ins loss 6dB, ret loss >10dB
Input 3: 950-2150MHz, ins loss 5dB, ret loss >10dB

KFTB Bandpass Filter for 950-1,500MHz. Eliminate signals not required after KIF-IF conv. Up to 35dB gain and mix at output for other 1st IF signal. 12V DC @ 165mA. *T159.+gR280.ig*

KXST Amplifies 950-2,150MHz by 38-44dB, gain sloped to overcome higher frequency satellite 1st I.F. losses. -20dB gain regulation. 120dBµVmaximum output. Mixes 47-862MHz with -1dB insertion loss. 12V DC@240mA. *T169.+gR297.ig*

K1-2 LNB supply, provides 14V or 18V DC @ up to 250mA and 22KHz switching tone from a 12V DC supply. 2 outputs with 5dB insertion / split loss. Use with KDR, KDD etc. *T99.+gR174.ig*

K2-8 Active satellite splitter & LNB supply. Divides signal from two LNB inputs four ways with an insertion loss of 0dB. Provides 14V/18V LNB supply and 22KHz. switching tone if required. 12V DC@620-750mA. *T179.+gR315.ig*

K series S Band Mixer & Converters

KSST S band mixer. 2 x inputs, mix S band 254-446MHz with VHF 40-230MHz and UHF 470-860MHz. Insertion loss 1.5dB, RL ≤2. K series housing with F conn. *T115.+gR202.ig*

KIF-S Downconvert 1.34-1.5GHz sat. 1st IF to 280-440MHz. for distribution of digital or analogue satellite TV, with or without Conditional Access. Generates 14/18V LNB supply and 22KHz. tone internally if required. 12V DC @ 880mA *T359.+gR632.ig*

KIF-V Downconvert sat. 1st IF to 50-420MHz for distribution of digital or analogue satellite TV, with or without Conditional Access. Bandwith adjustable betwen 27 and 36 MHz. Internal mixing with other MATV at output. 12V DC @400mA *T399.+gR702.ig*

KS-IF Reconstructs satellite 1st IF from 50-440MHz conversion of KIF-S. Transparent, one KS-IF required for each user. Incorporated terrestrial / satellite diplexer can be used if required. Draws ~200mA from receiver LNB supply. *T219.+gR385.ig*

K series Accessories

KP35 Mains power supply, 12V DC 3 Amps continuous, 3.5A max. 240V AC @ 55 Watts input. *T249.+gR438.ig*

KP60 Mains power supply, 12V DC 6 Amps continuous, maximum. 240V AC @85 Watts input. *T389.+gR685.ig*

KTP Programming terminal for satellite receivers, modulators and converters. 32 character LCD status indicator, four set up keys. Also for FR Ambra series. *T269.+gR473.ig*

KD100 Mounts any K series modules. Standard DIN mounting rail 1m. long x35mmx15mmx1.5mm. *T9.+gR16.ig*

KRF15 150mm Quick F snap in shielded bridging lead for interconnecting K series modules. *T6.+gR13.ig*

KRF45 450mm Quick F snap in shielded bridging lead for interconnecting K series modules. *T8.+gR17.ig*

KA600 K series mounting box 600mm high x 500mm wide x 180mm deep. Back perforated for DIN mounting rail and key locked door. *T159.+gR280.ig*

KA800 K series mounting box 800mm high x 500mm wide x 180mm deep. Back perforated for DIN mounting rail and key locked door. *T179.+gR315.ig*

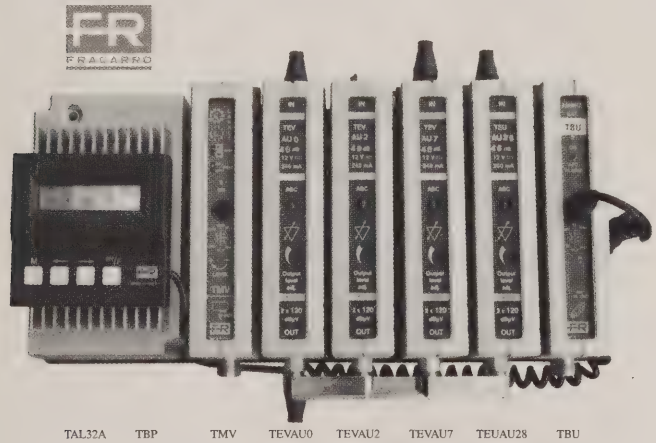
Single Channel Amplifiers, High Output

Fracarro Ambra 120 will output at 120dBµV continuously, with precision Automatic Gain Control circuit, die cast cases shielded to VDE 0855 and -40dB gain regulation. 12V DC. PAL type connectors. TEVX.. single input modules are for modulators, single channel antennas etc. TEV/.. etc. feature looped inputs to permit multiple modules used with multi-channel antennas etc.

TEVX.. B1 +52dB; nf <5dB typical; 93dBµV max. input; AGC 25dB dynamic range; 12V DC @240mA. *T259.+gR456.ig*
TEVXFM B2 +52dB; nf <4dB typical;112dBµV max. output; 60dBµV max. input; no AGC; 12VDC@240mA. *T249.+gR438.ig*
TEVX.. B3 +52dB; nf <6dB typical; 100dBµV max. input; AGC 32dB dynamic range; 12V DC @240mA. *T269.+gR473.ig*
TEVX.. Ch.S11-20 +52dB; nf <6.5dB typical; 100dBµV max. input; AGC 32dB dynamic range; 240mA. *T269.+gR473.ig*
TEUX.. B4 +50dB; nf <6.5dB typical; 95dBµV max. input; AGC 25dB dynamic range; 12V DC @260mA. *T279.+gR491.ig*
TEUX.. B5 +50dB; nf <6.5dB typical; 95dBµV max. input; AGC 25dB dynamic range; 12V DC @ 260mA. *T269.+gR473.ig*

Ambra 120 TEV/.. & TEU/.. dual input modules allow looping of inputs to other modules so that several channels can be taken from one antenna, although this reduces gain and increases noise.

TEV/.. B1 +48dB; nf <9dB typ.; 97dBµV max. input; AGC 25dB dynamic range; 12V DC @ 240mA. *T259.+gR456.ig*
TEV/.. B3 +48dB; nf <10dB typ.; 104dBµV max. input; AGC 32dB dynamic range; 12V DC @240mA. *T269.+gR473.ig*
TEV/.. Ch.S11-20 48dB; nf <10dB typ.; 104dBµV max. input; AGC 32dB dynamic range; 12V 240mA. *T269.+gR473.ig*
TEU/.. B4 46dB; nf <10dB typ., 99dBµV max. input; AGC 25dB dynamic range; 12 V DC @ 260mA. *T279.+gR491.ig*
TEU/.. B5 46dB; nf <10dB typ., 99dBµV max. input; AGC 25dB dynamic range; 12V DC @ 260mA. *T279.+gR491.ig*



Ambra Channel Converters

Less demanding channel conversions can be achieved with Ambra TAC/..-.. converter. Possible conversions are shown in the FR catalogue.

TAC/..-.. *T389.+gR685.ig*

Ambra IF Transit Channel Converters

Converters with A.G.C. Using a 33.4-38.9MHz. Intermediate Frequency, it is possible to use these modules to convert almost any input channel to any output channel. Excellent selectivity assisted by S.A.W. filtering.

TECX..-IF *T489.+gR861.ig*
TECIF-.. *T489.+gR861.ig*

Single Channel Amplifiers, High Output

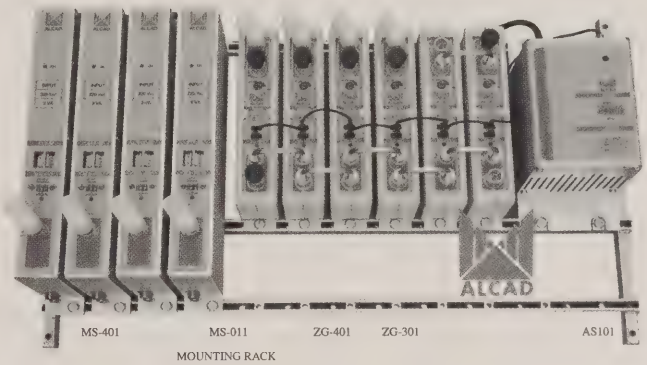
Avoid intermodulation problems caused by broadband amplifiers. Alcad high gain single channel modules are rated at 120dBµV out, -20dB gain regulation, 24V DC @75mA, and 2 each input and output PAL type connectors. Requires mounting rack, power supply, connectors and terminators.

ZG-101 B1 ch. module +50dB; nf <5dB *T107.+gR188.ig*

ZG-201 B2/FM mod. +30dB gain; nf <5dB *T108.+gR190.ig*

ZG-301 B3 ch. module +50dB; nf <6dB *T109.+gR192.ig*

ZG-401 UHF ch. module +53dB; nf <5dB *T120.+gR211.ig*



Single Channel Amplifier Accessories

AS-101 Supply 24V DC 1A / 240V 40W *T99.+gR209.ig*
AS-102 Supply 24V DC 1.3A / 240V 50W *T106.+gR187.ig*

ZP-001 Rack for <10 x ZG modules & 1 supply *T19.+gR33.ig*
ZP-004 Rack for <12 x ZG modules & 1 supply *T24.+gR42.ig*
MS-011 Rack, mounts <10 x MS modulators or ZG modules & 1 x AS-101 etc. supply. *T27.+gR57.ig*

ZP-002 Module Bridge, links input and output modules as necessary. Visible in picture above. *T5.+gR11.ig*

SPI75 Terminator 75Ω PAL, stops signal reflections that otherwise destabilise amplifiers. *T4.2+gR7.ig*

TPN Interconnects Ambra type modules according to system design. *T4.4+gR8.ig*

SPV PAL plug with lockring. Prevents accidental removal. *T2.+gR4.ig*

TSM6 Mounting Rack for 6 Ambra modules with concealed power supply bus. *T39.+gR69.ig*

TAL32A Ambra power supply, with leads for connection to TSM6. 3.2A @ 12V DC / 240V AC @ 45W *T298.+gR524.ig*

Australian TV Channel Design & Limits

Band	Channel number	Vision MHz	1st Sound MHz	Limits MHz	Centre Freq.
VHF	0	46.25	51.75	45-52	48.5
1	1	57.25	62.75	56-63	59.5
	2	64.25	69.75	63-70	66.5
VHF	3	86.25	91.75	85-92	88.5
2	4	95.25	100.75	94-101	97.5
	5	102.25	107.75	101-108	104.5
	5A	138.25	143.75	137-144	140.5
VHF	6	175.25	180.75	174-181	177.5
3	7	182.25	187.75	181-188	184.5
	8	189.25	194.75	188-195	191.5
	9	196.25	201.75	195-202	198.5
	9A	203.25	208.75	202-209	205.5
	(1) 10	209.25	214.75	208-215	*212.5D*
	(1) 11	216.25	221.75	215-222	*219.5D*
	12	224.25	229.75	223-230	226.5
UHF	20	471.25		470-477	473.5
	21	478.25	Channels	477-484	480.5
	22	485.25	20-27	484-491	487.5
	23	492.25	non	491-498	494.5
	24	499.25	broadcast.	498-505	501.5
	25	506.25	MATV	505-512	508.5
	26	513.25	only.	512-519	515.5
	27	520.25		519-526	522.5
4	28	527.25	532.75	526-533	529.5
	29	534.25	539.75	533-540	536.5
	30	541.25	546.75	540-547	543.5
	31	548.25	553.75	547-554	550.5
	32	555.25	560.75	554-561	557.5
	33	562.25	567.75	561-568	564.5
	34	569.25	574.75	568-575	571.5
	35	576.25	581.75	575-582	578.5

Band	Channel	Vision	1st Sound	Limits	Cent.Frq.
UHF	36	583.25	588.75	582-589	585.5
5	37	590.25	595.75	589-596	592.5
	38	597.25	602.75	596-603	599.5
	39	604.25	609.75	603-610	606.5
	40	611.25	616.75	610-617	613.5
	41	618.25	623.75	617-624	620.5
	42	625.25	630.75	624-631	627.5
	43	632.25	637.75	631-638	634.5
	44	639.25	644.75	638-645	641.5
	45	646.25	651.75	645-652	648.5
	46	653.25	658.75	652-659	655.5
	47	660.25	665.75	659-666	662.5
	48	667.25	672.75	666-673	669.5
	49	674.25	679.75	673-680	676.5
	50	681.25	686.75	680-687	683.5
	51	688.25	693.75	687-694	690.5
	52	695.25	700.75	694-701	697.5
	53	702.25	707.75	701-708	704.5
	54	709.25	714.75	708-715	711.5
	55	716.25	721.75	715-722	718.5
	56	723.25	728.75	722-729	725.5
	57	730.25	735.75	729-736	732.5
	58	737.25	742.75	736-743	739.5
	59	744.25	749.75	743-750	746.5
	60	751.25	756.75	750-757	753.5
	61	758.25	763.75	757-764	760.5
	62	765.25	770.75	764-771	767.5
	63	772.25	777.75	771-778	774.5
	64	779.25	784.75	778-785	781.5
	65	786.25	791.75	785-792	788.5
	66	793.25	798.75	792.799	795.5
	67	800.25	805.75	799-806	802.5
	68	807.25	812.75	806-813	809.5
	69	814.25	819.75	813-820	816.5

Band	Channel	Vision	1st Sound	Limits	Cent.Frq.
	70	821.25		820-827	823.5
	71	828.25	Channels	827-834	830.5
	72	835.25	70-75	834-841	837.5
	73	842.25	MATV	841-848	844.5
	74	849.25	only.	848-855	851.5
	75	856.25		855-862	858.5

* New channel 10 and 11 services +1MHz to freq. shown. (1)
* Digital services often offset +125KHz from centre of channel.
* Stereo sub-carriers +242KHz from 1st Audio carrier.
* No new television services for channels 3, 4, 5, or 5A.

New Zealand TV Channel Design

Band	Ch. No.	Vision MHz	Sound MHz	UHF	Ch.	Vision	Sound
VHF	1	45.25	50.75	5	39	615.25	620.75
1	2	55.25	60.75		40	623.25	628.75
	3	62.25	67.75		41	631.25	636.75
VHF	4	175.25	180.75		42	639.25	644.75
3	5	182.25	187.75		43	647.25	652.75
	6	189.25	194.75		44	655.25	660.75
	7	196.25	201.75		45	663.25	668.75
	8	203.25	208.75		46	671.25	676.75
	9	210.25	215.75		47	679.25	684.75
	10	217.25	222.75		48	687.25	692.75
	11	224.25	229.75		49	695.25	700.75
UHF	21	471.25	476.75		50	703.25	708.75
4	22	479.25	484.75		51	711.25	716.75
	23	487.25	492.75		52	719.25	724.75
	24	495.25	500.75		53	727.25	732.75
	25	503.25	508.75		54	735.25	740.75
	26	511.25	516.75		55	743.25	748.75
	27	519.25	524.75		56	751.25	756.75
	28	527.25	532.75		57	759.25	764.75
	29	535.25	540.75		58	767.25	772.75
	30	543.25	548.75		59	775.25	780.75
	31	551.25	556.75		60	783.25	788.75
	32	559.25	564.75		61	791.25	796.75
	33	567.25	572.75		62	799.25	804.75
	34	575.25	580.75		63	807.25	812.75
	35	583.25	588.75		64	815.25	820.75
	36	591.25	596.75		65	823.25	828.75
	37	599.25	604.75		66	831.25	836.75
	38	607.25	612.75		67	839.25	844.75
					68	847.25	852.75

Coaxial Cable Losses dB Per 100m

@20ºC ±1.8%/10ºC

MHz	55	211	350	550	870	1000	1750
RG59	6.18	11.79	15.22	19.36	24.75	26.54	35.81
RG6	4.94	9.43	12.2	15.62	19.99	21.46	28.66
RG11	3.12	5.95	7.74	9.88	12.8	13.88	19.51

Suggested Analogue Vision Signal Levels

Antenna delivers:

35dBµV	Poor picture, must be masthead amplified.
45dBµV	Can be 100% with low noise masthead amp.
55dBµV	Not quite enough for 1 set, distribution amp. OK.
65dBµV	O.K. for 2-4 sets if splitter & cable quality good.

Arriving at the set:

55dBµV	Recommended minimum, allows for rain fade.
65dBµV	Recommended for best picture quality.
75dBµV	Recommended maximum signal level.
85dBµV	Too much signal, tuner overload possible.

Ratio of Vision to Sound

1st sound carrier -13dB from vision L&R audio, 2nd -20dB 2xR. Only signal meters with rbw ≤100KHz can see 2nd audio.

Amplifier Max. Out. and Rules of Thumb

As more channels are amplified, an amplifier's maximum output level must be reduced to avoid the likelihood of intermodulation products reducing picture quality. Broadband amplifiers are usually rated for maximum output with 2 equal channels of say 108dBµV. This is the figure to reduce according to the number of TV channels being amplified. Count F.M. radio signals in the 88-108MHz. band as 1 channel unless they are 10dB or more below the TV levels.

No. of channels	2	3	4	5	6	7	8	9	10
Reduction in dB	0	2.5	3.5	4.5	5	5.5	6	6.5	7

The noise an amplifier generates adds to the total noise in a system, so the maximum output level must be further reduced according to the number of amplifiers being used.

No. of amplifiers	1	2	3	4	5	6
Reduction in dB	0	3	4.5	6	7	7.5

EXAMPLE:

Using an amplifier with a manufacturers maximum output rating of 108dBµV when amplifying 8 equal channels, the second amplifier should have it's maximum output level calculated at: 108 -(6+3) = 99dBµV.

Signal to Noise Ratio Calculation

Noise figures show by how many decibels an amplifier will further reduce the Signal to Noise ratio of an antenna system. The Signal to Noise Ratio (S/N) is the difference between the level of noise and useful signal. Over the bandwidth of 1 TV channel, engineers consider it reasonable to say the Noise figure at 75Ω is 2dBµV. Then 50dBµV through an amplifier with a 4dB Noise figure gives a S/N of 50-(4+2) = 44dB.

With terrestrial signals, a S/N better than 46dB is considered noise free and gives very good picture quality. 37dB S/N shows noise in the picture that is visible but not annoying. A 30dB S/N gives a poor picture with clearly visible snow, but a 26dB S/N gives a picture that is predominantly noise and of little use.

Noise levels can be measured on any signal level meter by measuring the noise floor of unused spectrum near to the used channel. Automated in some instruments this is quite a simple measurement.

VSWR, The Forgotten Measurement?

Antenna systems work best and are most efficient when the impedance is the same at all points in the system. When the impedance varies on the frequencies in use at any point in the antenna system, efficiency in passing signal is reduced. If an antenna fails to resonate on the frequencies in use, efficiency is also reduced. As a result of these inefficiencies, a proportion of the signal within the antenna system is reflected within the system so that it meets signal travelling in the opposite direction, causing standing waves.

Measured standing waves are known as the Voltage Standing Wave Ratio, abbreviated to V.S.W.R., sometimes S.W.R., and is also known as Return Loss. A poor V.S.W.R. can cause the transmission line to radiate signal, and with higher power levels can damage the final amplification stage.
In television reception, poor V.S.W.R. can cause unnecessarily snowy pictures, upset an amplifier, or cause a leading ghost.

Poor V.S.W.R. can be caused by cable quality, couplers, outlets, flyleads and of course, the antenna. An ideal V.S.W.R. is 1:1 where no power is reflected, but this is seldom attained. In practice 1.5:1 is more common, with 2:1 an acceptable limit. A number of V.S.W.R. and gain graphs of antennas and couplers appear earlier in this catalogue.

Even single channel products are optimised for V.S.W.R. as a part of the alignment procedure. An important measurement that should not be overlooked, V.S.W.R. or Return Loss most certainly effects the result achieved by an antenna system and will be more important than ever in delivery of Digital TV.

Return Loss = VSWR Table

dB RL	2	6	10	14	18	22	26	30	34	38	46
VSWR	8.7	3.0	1.9	1.5	1.3	1.2	1.1	1.07	1.04	1.03	1.01

Level Conversion Table at 75Ω

dBµV	µV	dBm	pW	dBµV	mV	dBm	µW
25	17.8	-83.8	4.22	87	22.4	-21.8	6.68
27	22.4	-81.8	6.68	89	28.2	-19.8	10.6
29	28.2	-79.8	10.6	91	35.5	-17.8	16.8
31	35.5	-77.8	16.8	93	44.7	-15.8	26.6
33	44.7	-75.8	26.6	95	56.2	-13.8	42.2
35	56.2	-73.8	42.2	97	70.8	-11.8	66.8
37	70.8	-71.8	66.8	99	89.1	-9.8	106
39	89.1	-69.8	106	101	112	-7.8	168
41	112	-67.8	168	103	141	-5.8	266
43	141	-65.8	266	105	178	-3.8	422
45	178	-63.8	422	107	224	-1.8	668
47	224	-61.8	668	109	282	.2	1.06mW
49	282	-59.8	1.06nW	111	355	2.2	1.68
51	355	-57.8	1.68	113	447	4.2	2.66
53	447	-55.8	2.66	115	562	6.2	4.22
55	562	-53.8	4.22	117	708	8.2	6.68
57	708	-51.8	6.68	119	891	10.2	10.6
59	891	-49.8	10.6	121	1.12V	12.2	16.8
61	1.12mV	-47.8	16.8	123	1.41	14.2	26.6
63	1.41	-45.8	26.6	125	1.78	16.2	42.2
65	1.78	-43.8	42.2	127	2.24	18.2	66.8
67	2.24	-41.8	66.8	129	2.82	20.2	106
69	2.82	-39.8	106	131	3.55	22.2	168
71	3.55	-37.8	168	133	4.47	24.2	266
73	4.47	-35.8	266	135	5.62	26.2	422
75	5.62	-33.8	422	137	7.08	28.2	668
77	7.08	-31.8	668	139	8.91	30.2	1.06W
79	8.91	-29.8	1.06µW	141	11.2	32.2	1.68
81	11.2	-27.8	1.68	143	14.1	34.2	2.66
83	14.1	-25.8	2.66	145	17.8	36.2	4.22
85	17.8	-23.8	4.22	147	22.4	38.2	6.68

Digital Terrestrial Television

Digital Terrestrial Television transmissions commenced in Australia's capital cities in January 2001.

Perhaps the first difference most will notice between Analogue and Digital TV is the letterbox shape of the 16/9 aspect ratio of the picture. Initially set top box receivers about the size of a satellite TV receiver are required with the likelihood of *idTV* integrated digital TV's appearing later. Once High Defintion set top boxes become available, a high end market for vastly superior TV picture quality at high prices will develop. Digital TV permits Interactive TV and Datacasting services of which the ability for immediate viewer response is considered to be the *killer application.*

Reports of DTTV's failure in the USA should be overlooked as their 8VSB transmission standard was proven inferior to the European DVB standard selected in exhaustive controlled tests conducted in Australia a few years ago.

Radio Spectrum saving technology unique to DVB standard signals, called Single Frequency Networks promises a revolution in available spectrum. SFN's employ the same channel as the main transmitter yet interference does not occur. In an area like Sydney SFN's will permit secondary services like Kings Cross and North Head to occupy the same channels as the primary transmitters. SFN's permit as many transmitters as are necessary, no longer limiting translators to available spectrum.

Implications for the antenna industry are many. The nature of digital is that people will receive perfect pictures or no picture. If a channel is close to picture loss, the picture may drop out without warning. Murphy's Law will ensure this occurs at the most inconvenient time, so as an industry we need to be making ourselves ready to deal professionally with this new technology.

As COFDM signal strongly resists Ghosting, one early market for digital is in built up areas where people have not been able to enjoy clear analogue TV reception. Old antennas are OK in some places, but others find that channel 12 or 6 will not Lock giving no pictures at all. Antennas need to be equally effective over all of channels 6 to 12 and 28-34. Impedance match is a more important issue with digital than analogue, with baluns singled out as a weak point. Cable quality and connectors within a TV distribution system are also of greater importance to keep signals clean and minimise impule noise ingress.

Amplifiers with less gain will be the order of the day as the higher gain amplifiers that have been popular in the analogue era will tend to degrade digital reception by the amount of noise and distortion they add to the signals.

Fracarro has developed a new model Log Periodic TV antenna (see LP34HV p.3) that offers the ideal DTV solution for those that no longer need channel 2 in their antenna system.

DVB
Digital Video Broadcasting

Measuring Digital Television Signals

Buying an instrument for Digital has to be more than a hit or miss affair. Yet, based on some of the information available, it can be little more than a lucky dip.

What is it about Digital that you need to measure?

Digital Channel Power
Analogue Signal to Noise Ratio
Digital Signal to Noise Ratio
Modulation Error Ratio
Bit Error Rates

Be careful, some are analogue measurements that at best estimate Digital Signal Quality! Viewing a picture and measuring Signal Level is not much help as total loss of picture can be close at hand!

Digital Channel Power is a measure of Signal Level that gives no indication of Signal Quality. DCP is more complicated to measure than tradtional Analogue Peak Power, even though the value of a DCP measurement is not as important as Analogue Peak Power has been.

Analogue Signal to Noise Ratio is a general signal quality indicator that can't accurately measure Digital Signal Quality, yet ASNR is the measurement recommended by some for Digital TV!

Bit Error Rates are useful quality measures of a Digital data stream, complicated by the need to measure at 3 points before the full Signal Quality position can be clearly understood.

Modulation Error Ratio is a single Digital Signal Quality measure that covers the entire range of signal qualities, takes into account all signal impairments, and is repeatable. MER is also sometimes called *Digital Signal to Noise Ratio.*

COFDM, QPSK, QAM, which of these digital signals are important to you? The matter is further complicated by the need for separate measurement equipment for each standard.

Forward Error Correction Systems work continuously in digital transmission systems to keep received picture quality perfect. FEC makes field Signal Quality measurements not just possible, but *more important* than signal level measurements!

Lacey's have Unaohm Digital Signal Quality measurement instruments for COFDM, QPSK and QAM. The new TBM-299 model is the first free standing COFDM Digital Terrestrial Signal Quality meter which incorporates Digital and Analogue measurements in one small instrument. At the leading edge in terms of thorough measurement and value for money, more information appears on pages 61 and 62 of this catalogue.

Digital Signal Quality is a complicated subject, with new concepts that must be understood before it makes sense. Why risk buying an instrument that won't measure all you will need.

Level Margin, the idea:

A simple means of testing Digital Signal Quality of a receiving installation is to measure the margin above Lock or picture failure. Engineering principles dictate signal level should be at least 9dB and preferably more than 20dB above Lock.

In practice: Insert a constant 75Ω variable attenuator, set for maximum attenuation, (Lacey's AT7520M p.32) between the antenna and Set Top Box. Check pictures on all channels. Reduce attenuation until the worst channel Locks. The amount of attenuation required indicates how much Level Margin your system has. Due to the impedance sensitive nature of Digital, a *pot in a box* will not do!

Video Distribution Systems

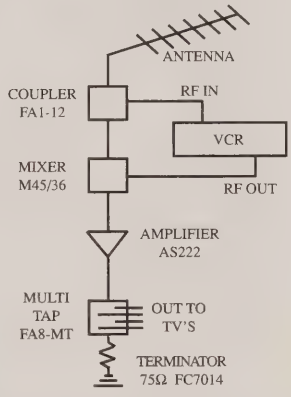
It is practical to send the picture & sound from VCR's and or Pay TV receivers to all TV's in the house. There are several ways to accomplish this, but careful thought must be given to channel plan and system design if it is to successfully allow any channel to be viewed on any TV at any time.

Most RF outputs are factory preset to channel 37 and are either screw adjustable between about ch 35 and 45 or are menu adjustable across the entire ch 28 to 69 UHF TV range.

To permit a VCR to record off-air channels, a small amount of incoming signal should be tapped off before the mixer to avoid the possibility of creating a feedback loop. Lacey's CD-141 or FA1-12 coupler (page 17) will provide the VCR with off air signal with a hardly noticeable insertion loss of around 1dB.

Mixing A splitter or power divider in reverse will mix, but without isolation between inputs and substantial insertion loss, it effectively superimposes any unwanted off air signals and noise etc. from the VCR or Pay TV box modulator, on to the signals yoy want in your system.

Lacey's have a range of band or frequency selective mixing devices (page 19) that offer high isolation, generally better than 30dB, and insertion loss of less than 1dB, that can make the ideal mix. For example, M45/36 will mix signal from an off-air antenna up to ch 36 with ch 40 upwards. If a number of set top boxes are required, their RF outputs can be combined using an F type splitter in reverse (page 16) and the combined signal fed into a band selective mixer.

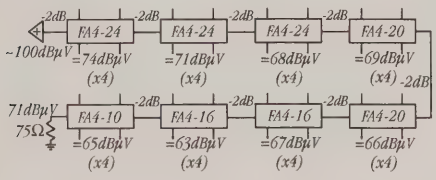


Another solution is the JH7RP45AU distribution amplifier (page 38) which provides selective inputs for all VHF, bands 4 and band 5. Grossly unbalanced signal levels can be adjusted with attenuators (page 32). Ideally multiple set top boxes and off-air channels should be combined with a single channel amplifier system like Lacey's AC-141 or K series products although cost sometimes dictates a band selective solution like those described above.

Distribution and MATV

With the typical 65-70dBµV from a VCR's modulator and 70dBµV of off-air signal, it is possible to run a VCR system to 4 points passively using a CD-141 coupler and M45/36 mixer, thanks to total loss in the 2 devices of <2dB. No amplifier is necessary!

A simple amplifier like Lacey's AS222 (p.37) feeding 6 x CD-4.. or FA4-.. couplers (p.17) from the centre with 10 metres of RG6 trunk cable between each coupler can run 24 outlets spread over 60 metres. That's 48 outlets over the whole system. Bigger amplifiers will do even more. Almost any recent amplifier will give 100dBµV out. A system design for 32 outlets spread over 80 metres of RG6 is illustrated below.



Quality cable and couplers, 75Ω terminated trunk lines (FC7014 p.18), and there isn't much you can't do!

Active Reflectors

How do you get local television to someone in difficult terrain where TV signal arriving is weak and distorted? Running cable from the nearest hilltop can be a workable option, but there is another method that can serve small communities for relatively small cost.

A Reflector is an installation of antenna equipment that consists of 3 major components. A receiving antenna, an amplifier and a transmitting antenna, all usually co-located on a convenient hill. No licence is required in Australia for this type of equipment unless channels are to be frequency converted. Whilst it is possible that someone semi-skilled could fluke good results from a reflector installation, this type of work is best left to those with instrumentation and a sound knowledge of radio principles, as it is possible to accidentally radiate interference.

Therefore we present the following points for consideration:

Rules for Reflector Construction.

1/ The receiving antenna should be as far apart as practical from the transmit antenna. A shed or hill improves isolation.
2/ Amplification should not be broadband thus reducing the possibility of interfering with other services.
3/ If more than about 20dBµV of the input signal arrives at the final receive antennas, it can downgrade results.
4/ Polarity can be reversed to improve the isolation of the two antennas, but a horizontal Transmit antenna is preferred.
5/ Cable must be at least braid and foil as signal will leak in and out of braid only coax causing feedback.

Antennas Choice of antennas is important, as wideband antennas tend to offer less performance than antennas that are optimised for the frequencies in use. Channel specific antennas will improve your signal to noise ratio at input, and will improve the distance of reach in re-transmission. See pages 6 to 8 of this catalogue for Fracarro narrow band antennas which we recommend for this type of work.

Amplifiers Amplification with band selective inputs should be used as a minimum. Filtering before amplification prevents out of band signals radiating, and reduces the likelihood of interference with other radio services. A domestic video recorder in a country area was traced (at great expense) as the source of interference that blocked an aircraft radio channel. It is better to use some filtering to eliminate similar possibilities in even the most remote locations. After all, filtering is what broadcasters do to keep their signals clean, but on a larger scale. Best of all is single channel amplification. Single Channel filtering is the most effective, and outputs of up to 120dBµV per channel can be quite easily obtained. Pages 41 & 43 shows some products that may assist. 100dBµV can be achieved from almost any amplifier and can do surprising work over a distance of 1K. Tests using broadband amplifiers to prove the likely effectiveness of a reflector before specialised equipment is ordered are recommended.

Power Supply Availability of mains power makes it easy, but many sites require solar power. As many amplifiers employ a 24 or 12V DC internal supply rail, solar power is a real option. Careful current load design is important to ensure your reflector stays on air. As engineering of alternative power sources is a precise science, we suggest consultation with a solar power specialist.

Speakers Twin Cone

Great sound at minimal cost, applications include In Ceiling and P.A. Column construction. ST65 models sound particularly good thanks to small size and the large baffle area of a ceiling or wall.

ST65 Twin Cone Speaker 165mm or 6&1/2 inch outside diameter with foam roll edge cone surround and lacquer re-inforced paper cone. Mounting hole centres 158mm. Magnet diameter 68mm, depth 60mm. 10watts @ 8Ω.
T7.+gR12.ig

ST65

ST80 Twin Cone Speaker 204mm or 8 inch outside diameter with foam roll edge cone surround and lacquer re-inforced convex paper cone. Mounting hole centres 198mm. Magnet diameter 68mm, tot. d. 75mm. 15W @ 8Ω.
T8.+gR14.ig

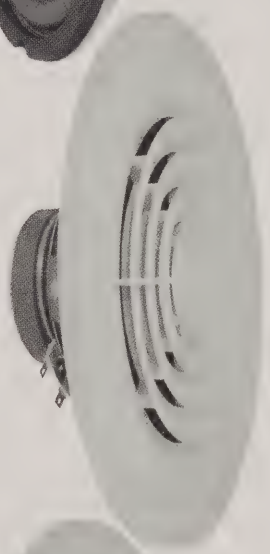
ST8

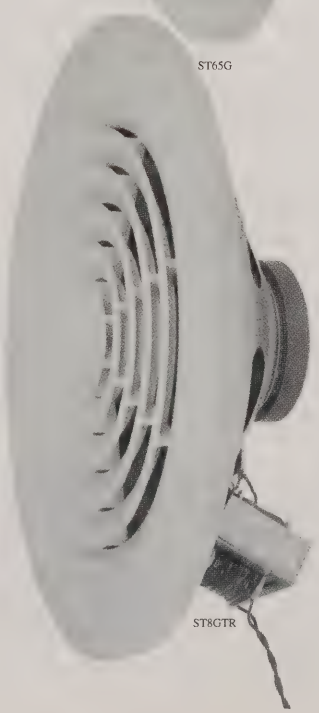
ST65G Twin Cone Speaker 165mm or 6&1/2 inch. ST65 driver screw mounted to grille for in ceiling applications. Mounting hole centres 208mm. 10W @ 8Ω.
T11.+gR20.ig

ST80G Twin Cone Speaker 204mm or 8 inch ST80 mounted to grille for P.A. applications, mounting hole centres 262mm. 15W @ 8Ω. *T13.+gR23.ig*

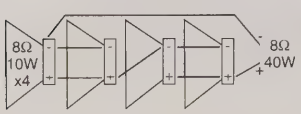
ST65GTR Twin Cone Speaker 165mm or 6&1/2 inch as ST65G with frame mounted 100V line transformer. Mounting hole centres 208mm. *T14.+gR25.ig*

ST80GTR Twin Cone Speaker 204mm or 8 inch ST80G with frame mounted 100V line transformer. Mounting hole centres 262mm. *T16.+gR29.ig*


ST65G


ST8GTR

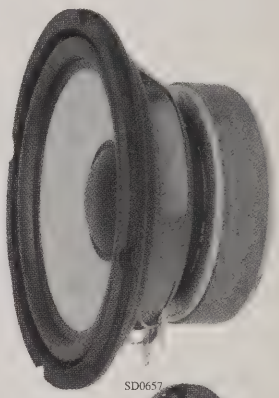
TechTip. *numbers of speakers can be connected in Series Parallel Combination to handle serious power levels, whilst avoiding the loss of sound quality from 100V line transformers. 4 groups of 4 (16 x 10 W) connected in the same Series Parallel manner still provides an 8Ω amplifier load but with 160W capacity.*



Speakers General Purpose

High power drivers for speaker construction, driver replacement etc. Mechanical specfications and appearance remarkably similar to drivers used in some big brand speakers.

SD0657 165mm or 6&1/2 inch diameter woven convex cone with rubber surround. 107mmØ magnet. Mtg hole centres 158mm.
T17.+gR30.ig


SD0657

SD0888 204mm or 8 inch diameter driver with woven convex cone and rubber surround. 45Hz - 5KHz, 150W RMS @ 8Ω, 38mm voice coil & 120mmØ 30 oz magnet. Mtg hole centres 196mm. Sensitivity for 1W@1m: 91dB.
Parameters: Fo48.96Hz Qms7.18 Qes.84 Qts.75 Veq.031 m3
T18.+gR32.ig

SD0888

SD1089 254mm or 10 inch diameter driver with woven convex cone and rubber surround. 40Hz - 4KHz, 200W RMS @ 8Ω, 38mm voice coil & 120mmØ 30 oz magnet. Sensitivity for 1W@1m: 90dB.
Parameters: Fo32.68Hz Qms10.09 Qes.98 Qts.98 Veq.107 m3
T29.+gR51.ig

SD1290 305mm or 12 inch diameter driver with woven convex cone and rubber surround. 28Hz - 3.5KHz, 250W RMS @ 8Ω, 38mm voice coil & 120mmØ 30 oz magnet. Mtg hole centres 293mm. Sensitivity for 1W@1m: 90dB.
Parameters: Fo31.75Hz Qms 10.79 Qes 1.61 Qts 1.4 Veq .143 m3
T35.+gR62.ig

SD1290

TechTip. *drivers should be In Phase (all pushing together). To check phasing, connect a 1.5V battery across speakers and watch that all cones move in the same direction at the same time. Any speaker which moves in the opposite direction to the rest is out of phase. Phasing is easily reversed by swapping the wires between the + and - terminals of the driver that is out of phase.*

SD2784 74mm or 2&7/8 inch diameter polyprop. cone driver with foam rubber surround. .76" al. voice coil & 64mm Ø shielded magnet. Mtg hole centres 85mm. 30W RMS @ 4Ω. Resonant freq. 120Hz ±20%, frequency response ≤12,000Hz., 89±3 dB/w.m sens. *T4.+gR7.ig*

SD3787 98mm or 3&7/8 inch diameter polyprop. cone driver with foam rubber surround. 25mm al. voice coil & 76mm Ø shielded magnet. Mtg hole centres 115mm. 60W RMS @ 4Ω. Resonant freq. 100Hz ±20%, freq. resp. ≤10,000Hz., 89 ±3 dB/w.m sens. *T6.+gR11.ig*

Tweeters

ST5835 Dome tweeter mylar 15mm or 5/8 inch. 45mm Ø magnet. Mtg hole centres 72mm. 20W RMS @ 8Ω. Frequency response ≤20,000Hz. Sensitivity 89 ±3 dB/w.m. *T3.+gR5.ig*

ST0136 Dome tweeter mylar. 25mm or 1 inch. 75mm Ø magnet. Mtg hole centres 110mm. 60W RMS @ 8Ω. Frequency response 3,000 - 18,000Hz. Sensitivity 88 ±3 dB/w.m. *T5.+gR9.ig*

SCX3350 Crossover network 3 way with integrated speaker terminals for 48mm Ø hole. High current PCB, quality capacitors and air suspended coil. 2KHz & 4KHz cfx freq. 12dB per octave, 150W @8Ω. Colour printed carton included. *T8.+gR14.ig*

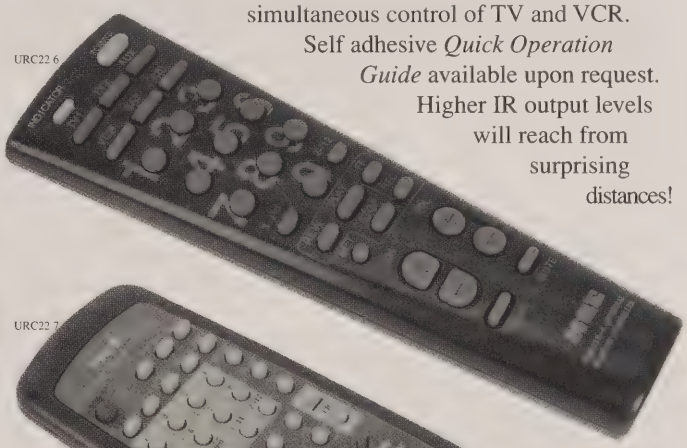
DRS55 Pair of dual cone speakers with attractive black front grills. 158mm 6&1/4" Ø, 80mm Ø magnet & 20mm voice coil. Convex cone laquered with rolled foam edge. 250W PMPO @ 4Ω. 40 - 20,000Hz frequency response. 92dB/W @1m sensitivity. Mounting screw holes 142mm apart. Installation kit of 2 x 3m lengths of fig. 8 cable, screws & clips included. *T19.+gR34.ig*

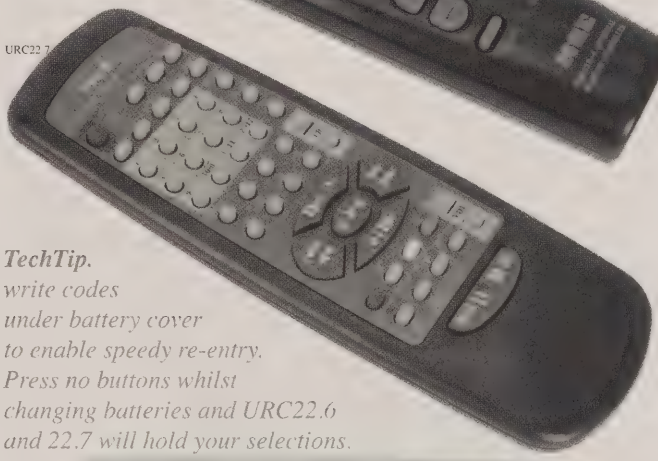
Universal & Replacement Remote Controls

URC22.6 6 in 1 Universal Remote Control. TV1, TV2, AUX, VCR, SAT & CBL Easy to use shape and button layout. 2 x AA batteries required. *T14.+gR26.ig*

URC22.7 7 in 1 Universal Remote Control. TV1, TV2, AUX, VCR1, VCR2, CBL & SAT. Includes Teletext and huge function range. 2 x AAA batteries required. *T18.+gR34ig*

Hundreds of codes that cover thousands of brands and models are factory stored in each URC. Search simplifies finding the codes you need, or use the code book included with each URC. Newly revised European based code library is the same for both models and includes Cable & Satellite set top boxes, VCR's and TV's. TV sound functions Punch Through VCR modes simplifying simultaneous control of TV and VCR. Self adhesive *Quick Operation Guide* available upon request. Higher IR output levels will reach from surprising distances!





TechTip.
write codes under battery cover to enable speedy re-entry. Press no buttons whilst changing batteries and URC22.6 and 22.7 will hold your selections.

Television Mounting Brackets

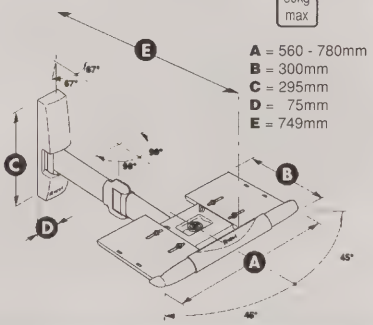
Quality European TV mounting brackets that can make almost any set look good. Fixing plates suit stud framed cavity, brick or concrete walls. Elegant snap on fixing plate cover, restraining strap and Tilt adjustment included.

Space System

51-73cm

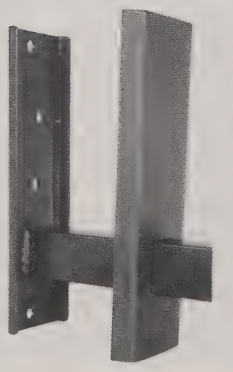
60kg max

BM-R28 Large rotating TV wall bracket. Suits sets with diagonal screen size 51-73cm which weigh up to 60kg.
T178.+gR314.ig



Swip

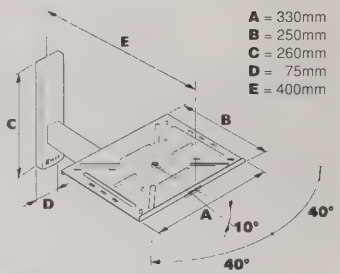
Fixing plate 250 x 70mmø. 8mm mounting holes at 12mm, 77.5mm, 122.5mm, 180mm, & 237.5mm. 3 x offset from bracket centre by 6mm to assist in stud mounting.



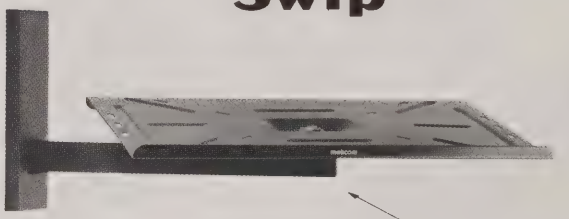
35-48cm

25kg max

BM-SE Small fixed TV wall bracket. Suits sets with diagonal screen size 35-48cm which weigh up to 25kg. Ideal for Motels and all multiple TV installations.
T39.+gR69.ig



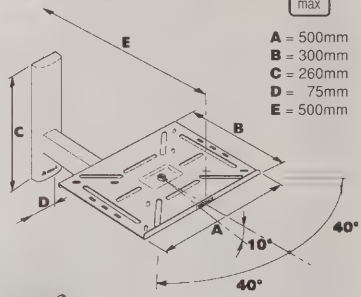
Swip



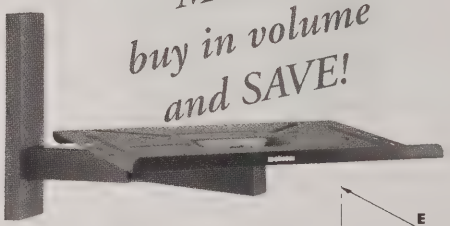
51-63cm

30kg max

BM-M Medium fixed TV wall bracket. Suits sets with diagonal screen size 51-63cm which weigh up to 30kg. Includes mounting kit.
T49.+gR86.ig



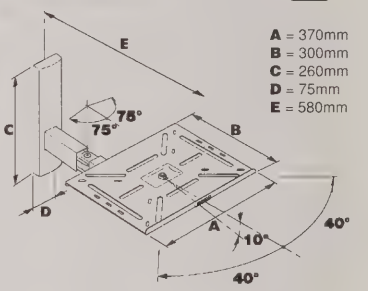
Motels, buy in volume and SAVE!



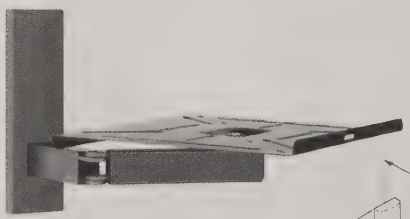
35-48cm

20kg max

BM-SR Small rotating TV wall bracket. Suits sets with diagonal screen size 35-48cm which weigh up to 20kg.
T59.+gR104.ig



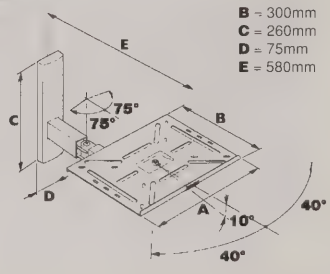
Swip



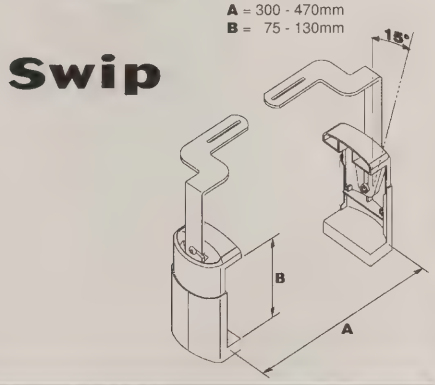
43-53cm

25kg max

BM-MR Medium rotating TV wall bracket. Suits sets with diagonal screen size 43-53cm which weigh up to 25kg.
T69.+gR121.ig

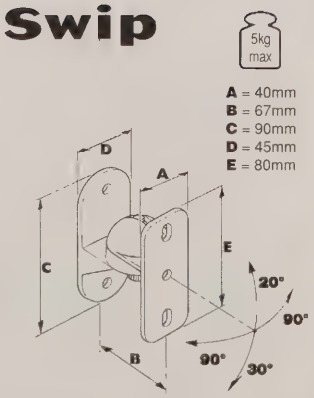


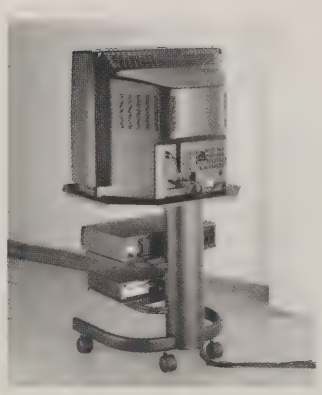
BM-VCR
Mounts VCR, Satellite Decoder, DVD or similar below any one of the above brackets. Up to 15° tilt. Screws under TV brackets.
T39.+gR69.ig

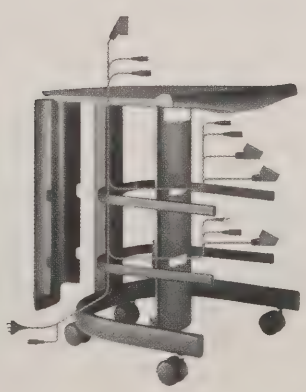


BM-TXL Stylish TV trolley system with 3 integrated shelves for TV, VCR and Satellite receiver, etc. Features *Cable Less* cable concealing system. Neatens your entire home entertainment installation. Main TV shelf 700 x 420mm, 600mm high will hold up to a 60kg TV and VCR / SAT receiver up to 10kg each. Makes ordinary TV equipment look fantastic.
T236.+gR419.ig

BM-SXS Speaker brackets, 1 x pair. Each supports maximum of 5kg weight. Swivels and locks into required position.
T15.+gR26.ig



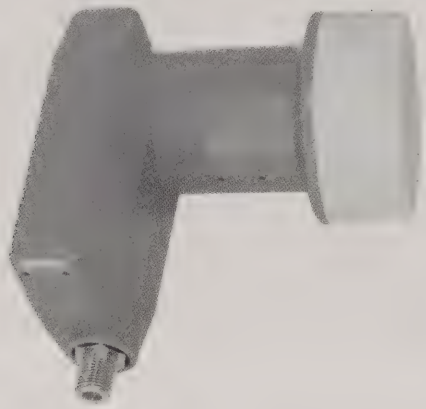




Satellite Television & Internet

Ku band Dual Polarity Single Output LNBF's

Low phase noise, improved noise figure, excellent local oscillator stability, high isolation 13/18 V horizontal / vertical switch, *NEW* compact shape. KFJ21 includes a 22KHz band switch. A better solution for individual and multiple satellite receiving systems. Suitable for reception of Digital and



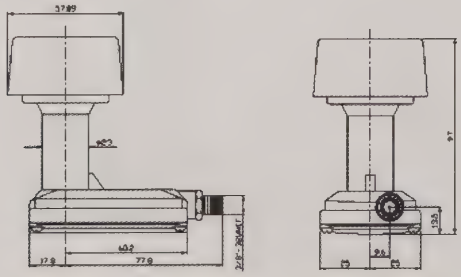
Analogue signals. Meets ETSI standard (CE Certified)

KFH21 Optus frequency range *T49+gR87ig*

Input Frequency Range:	12.25-12.75GHz
Output Frequency Range:	950-1950 MHz
Local Osc. Frequency:	11.3 GHz

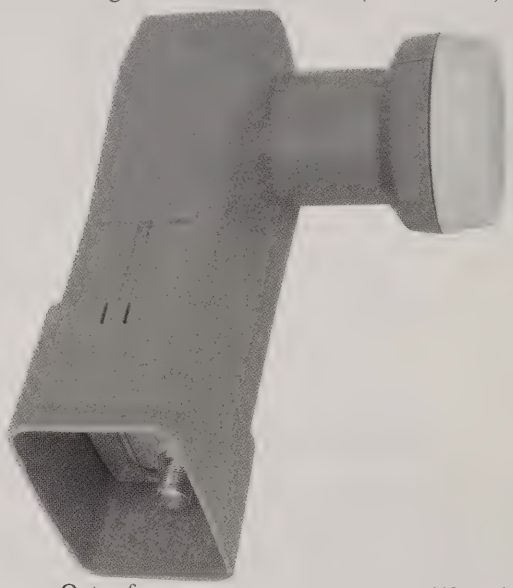
KFJ21 International frequency ranges *T49+gR87ig*

	Low Band	High Band
Input Frequency Range:	10.7-11.7	11.7-12.75 GHz
Output Frequency Range:	950-1950	1100-2150 MHz
Local Osc. Frequency:	9.75 GHz	10.6 GHz
Noise Figure:	0.7 dB(Typ.)	
F/D Ratio:	0.6	
Input Reflector Type:	Offset	
Cross Polarity Isolation:	22 dB(Min.)	28 dB(Typical)
Conversion Gain:	50 dB(Min.)	62 dB(Max.)
Gain Flatness:	±0.5 dB per 27 MHz	
L.O. Frequency Stability:	@25°C	±1 MHz
	over -30°C~60°C	±3 MHz
Local Osc. Phase Noise:	1 KHz Offset	-60 dBc/Hz
	10 KHz Offset	-80 dBc/Hz
	100 KHz Offset	-100 dBc/Hz
Output Power @1dB Compression Point:		0 dBm (Min.)
Output Return Loss:	7.5 dB	
Output Connector:	F type Female 75Ω	
Supply Voltage:	11.5-19V DC	
Polarity Switching	Vertical:	11.5 - 14.2 V DC
	Horizontal:	15.8 - 19 V DC
Current Consumption:	110 mA (Typical)	150 mA(Max.)
Band Switch KF-J21:	Low 0 KHz	
	High 22 KHz±4 KHz continuous.	
Operating Temperature:	-30°C to +60°C	



Ku band Dual Polarity Dual Output LNBF's

Delivers both Horizontal and Vertical polarities simultaneously. Suitable for Digital and Analogue signals thanks to low Phase Noise. High Isolation between polarities, Low Noise, excellent Local Oscillator stability, Weatherproof O-Ring and Gasket seal inside outer housing. Meets ETSI standard (CE Certified).

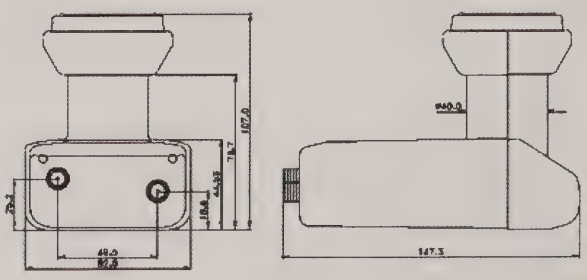


KFH22 Optus frequency range *T119.+gR204.ig*

Input Frequency Range:	12.25-12.75GHz
Output Frequency Range:	950-1950 MHz
Local Osc. Frequency:	11.3 GHz

KFJ22 International frequency ranges *T149.+gR262.ig*

	Low Band	High Band
Input Frequency Range:	10.7-11.7	11.7-12.75 GHz
Output Frequency Range:	950-1950	1100-2150 MHz
Local Osc. Frequency:	9.75 GHz	10.6 GHz
Noise Figure:	0.7 dB(Typical)	
F/D Ratio:	0.6	
Input Reflector Type:	Offset	
Cross Polarity Isolation:	22 dB(Min.)	28 dB(Typ.)
Conversion Gain:	50 dB(Min.)	62 dB(Max.)
Gain Flatness:	±0.5 dB per 27 MHz	
L.O. Frequency Stability:	@25°C	±1 MHz
	over -30°C~60°C	±3 MHz
Local Osc. Phase Noise:	1 KHz Offset	-60 dBc/Hz
	10 KHz Offset	-80 dBc/Hz
	100 KHz Offset	-100 dBc/Hz
Image Rejection:	40 dB(Min.)	
Output Power @ 1 dB Compression Point:		0 dBm (Min.)
Output Return Loss	7.5 dB	
Output Connector	F type Female 75Ω	
Supply Voltage	11.5~19V DC	
Current Consumption	110 mA Typ. 150 mA (Max.)	
Polarity Switching	Vertical:	11.5 - 14.2 V DC
	Horizontal:	15.8 - 19 V DC
Band Switch KFJ22	Low:	0 KHz
	High:	22 KHz±4 KHz continuous
Operating Temperature:		-30°C to +60°C

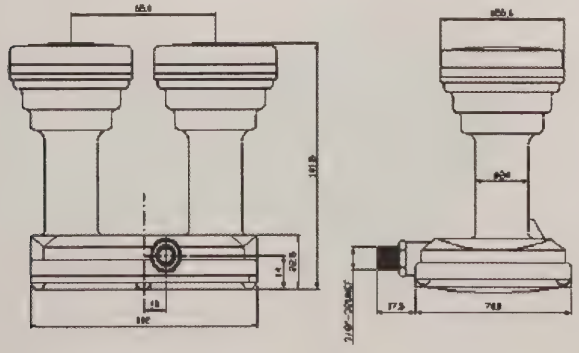


Dual Ku band Monoblock LNBF 6°

Unique double feedhorn provides simultaneous access to 2 satellites 6° apart thanks to an integrated DiSEqC 2.0 switch. Low phase noise for Digital and Analogue reception, improved noise figure & high isolation. Easier to set up than than Two-LNBs. Meets ETSI standard (CE Certified).

KFDJ22 International frequency ranges *T119.+gR204.ig*

Input Frequency Range:	Low Band	Hi Band
	10.7-11.7	11.7-12.75 GHz
Output Frequency Range:	950-1,950	1,100-2,150 MHz
Local Osc. Frequency:	9.75 GHz	10.6 GHz
Noise Figure:	1.0 dB (Typical)	
Input Connectors:	CR 120 Circular Waveguide	
Cross Polarity Isolation:	22 dB(Min.)	25 dB(Typical)
Conversion Gain:	50 dB(Min.)	62 dB(Max.)
Gain Flatness:	±0.5 dB per 27 MHz	
Local Osc. Freq. Stability	@25°C:	±1 MHz
	over -30°C to +60°C	±3 MHz
Local Osc. Phase Noise:	@1 KHz Offset	-60 dBc/Hz
	@10 KHz Offset	-80 dBc/Hz
	@100 KHz Offset	-100 dBc/Hz
Image Rejection:	40 dB(Min.)	
Output Power @ 1 dB Compression Point:		0 dBm(Min.)
Output Return Loss:	7.5 dB	
Output Connector:	F type Female 75Ω	
Supply Voltage:	11.5 - 19V D.C.	
Current Consumption:	120 mA(Typ.) 150 mA(Max.)	
Polarity, Band & Satellite Selection:	DiSEqC Command Table	
Operating Temperature:	-30°C to +60°C	



Single Polarity Ku band LNB's. Better noise figures!

Low phase noise enhances Digital reception, suitable for individual systems, motorised dishes or Satellite MATV.

KH11 12.25-12.75 GHz (11.3GHz Local Osc.)

KJ11 10.70- 12.75 GHz (9.75&10.6 GHz L.O.)

Universal LNB with voltage controlled band switch.

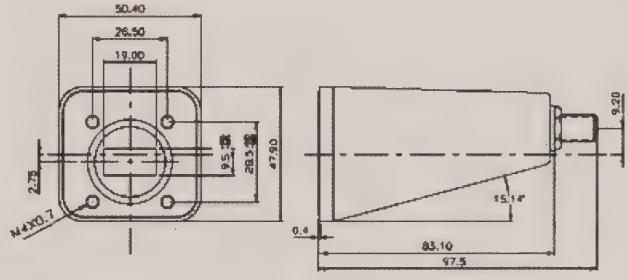
WR-75 wave guide input supplied with O ring weather-seal.

KH11 Optus frequency range *T59+gR104.ig*

Input Frequency Range:	12.25-12.75GHz
Output Frequency Range:	950-1,450 MHz
Local Osc. Frequency:	11.3 GHz

KJ11 International frequency ranges *T59+gR104.ig*

Input Frequency Range:	Low Band	High Band
	10.7-11.7	11.7-12.75 GHz
Output Frequency Range:	950-1950	1100-2150 MHz
L.O. Frequency:	9.75 GHz	10.6 GHz
Band Switch:	15.8-20 V DC	11.5-14.2 V DC
Noise Figure:	0.7 dB	(Typical)
Input wave guide:	WR75 type	
Conversion Gain:	50dB (min.)	62dB (max.)
Gain Flatness:	±.5dB per 27MHz	
Range Gain Variation:	6dB peak to peak	
Local Osc. Freq. Stability	@25°C	±1MHz
	over -40° to +60°C	±3MHz
Local Osc. Phase Noise	@1 KHz Offset	-60 dBc/Hz
	@10 KHz Offset	-80 dBc/Hz
	@100 KHz Offset	-100 dBc/Hz
Output Power @ 1 dB Compression:		0 dBm (Min.)
Output Return Loss:	7.5dB minimum	
Output Connector:	F type Female 75Ω	
Supply Voltage:	11.5 - 19V D.C.	
Current Consumption:	150 mA (Max.)	
Operating Temperature:	-40°C to +60°C	



KFH01

Ku band feedhorn, WR75 port. Return Loss: 18dB typical. Size: 56 x 56 x 85mm

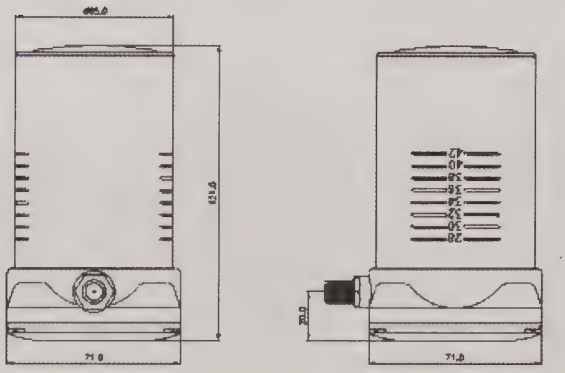
T12.+gR18.ig

C Band LNB's & Feedhorns

Low phase noise, improved noise figure, excellent local 3.4 to 4.2GHz extended frequency range, voltage controlled horizontal / vertical switch, low phase noise for digital and analogue applications, better local oscillator stability, compact and water resistant design. Scalar Rings and circular polarity dielectric included at no extra cost.

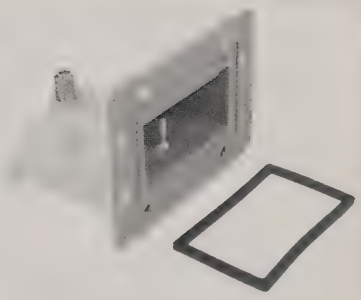
CFD21A Extended C band LNBF *T98.+gR162.ig*

Inupt frequency range:	3.4 - 4.2GHz
Output frequency range:	950 - 1,750 MHz
Local Oscillator freq.:	5,150 MHz
Noise Temperature:	20°K typical
F/D Ratio:	0.28-0.42 adjustable
Cross Pol. Isolation:	20dB typical
Conversion Gain:	65dB typical 60dB min.
Gain Flatness:	±1dB over 36MHz
L.O. Frequency Stability:	@25°C ±1MHz
	over -40° to +60°C ±2.5MHz
Local Oscillator Phase Noise	
@1KHz Offset	-70dBc/Hz
@10KHz Offset	-90dBc/Hz
@100KHz Offset	-105dBc/Hz
Image Rejection:	40dB minimum
Output Power @1dB compression point:	0dBm (min.)
Output Return Loss:	7.5dB
Output Connector:	F type Female 75Ω
Current Consumption:	150mA typical
Polarity Switch: Vertical	11.5 - 14.2V DC
Horizontal	15.8 - 19V DC
Operating Temperature:	-40°C to +60°C



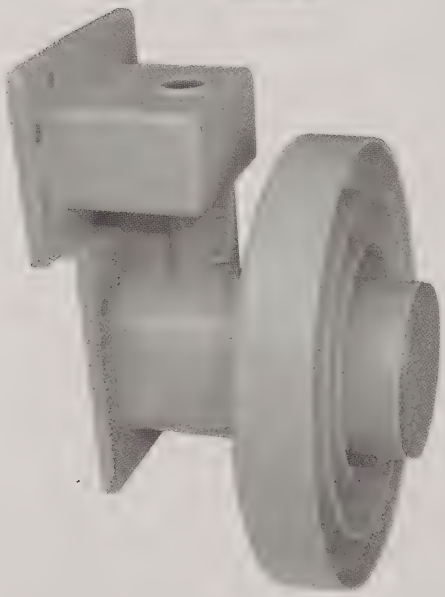
EHC-1600
LNB, C band, Digital Ready.

R.F. Input:	3.7-4.2 GHz
I.F. Out:	950-1,450 MHz
L.O.Freq:	5,150MHz
Noise:	20°K-25°K
Gain:	65dB typical
Flatness:	±3dB
Surge Protected:	Yes
Power:	12-20V DC
Current:	150mA



T49.+gR86.ig

CFH-01
C band scalar Feed Horn. Single polarity, single LNB.
F/D range: .33-.45
Return Loss: 18dB typical
T22.+gR39.ig



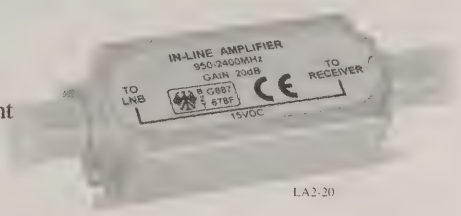
CFH-02 C band orthomode scalar Feed Horn, separates H&V polarities, permitting two LNB's to function simultaneously from the same satellite.
F/D range: .33-.45
Return Loss: 18dB typical
T59.+gR104.ig

CFH-04 C band scalar Feed Horn. Motorised polariser (H V & skew) and Dielectric Insert (circular polarities) included.
F/D range: .33-.45
Return Loss: 18dB typical.
T89.+gR157.ig

Satellite Television Accessories

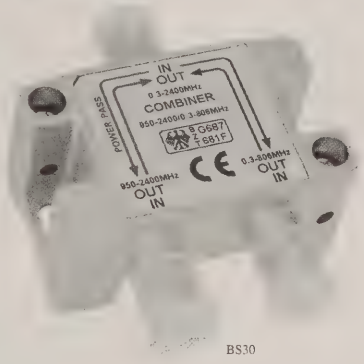
see page 18 for Satellite Splitters

LA2-20 1st I.F. Line Amplifier. +18dB (±2dB) 950-2150MHz, Max. output 110dBµV, 7dB noise. Draws 40mA from 15-18V DC LNB line power. Power pass 500mA max. Suits Digital and Analogue. Excellent for long cable runs. *T13.6+gR24.ig*



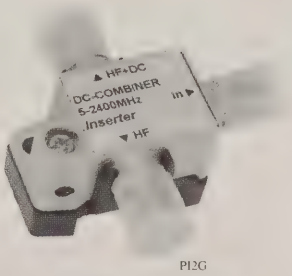
LA2-20

BS30 Mix or separate 1st I.F. from 40-860 MHz. Insertion loss 0.8dB to satellite and 0.5dB to terrestrial. Allows one cable to pass both satellite and terrestrial signals. Use a pair to mix and then separate. *T9.4 +gR17.ig*



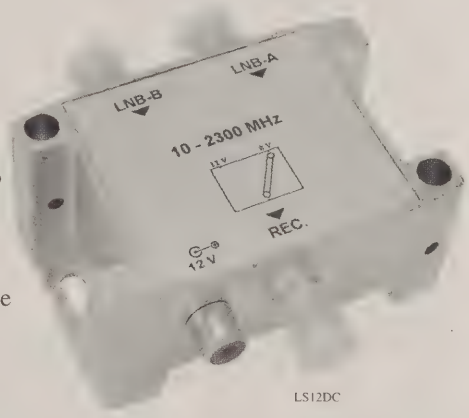
BS30

PI2G Inserts (or removes) power from coax feed line. 5-2,400MHz, low insertion loss, F type female connectors for both RF and low voltage connections. *T8.+gR14.ig*



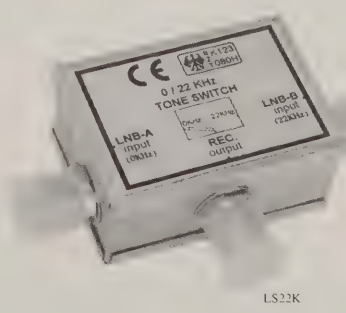
PI2G

LS12DC Switching between LNB's etc. Apply 12V DC to RCA female connector to switch relay to opposite input. 10-2300MHz, 1.5dB insertion loss, F type female RF connectors. *T17.+gR30.ig*



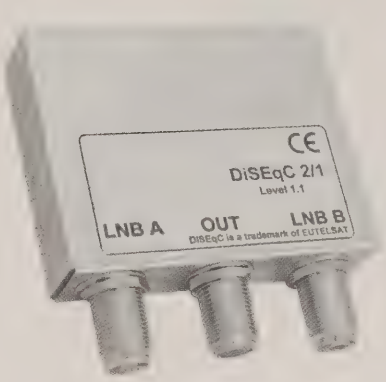
LS12DC

LS22K Tone Switch for changing between LNB's. Receiver generated 22KHz on coax line, switches to alternate input. Minimal current draw, low insertion loss relay switch. F type female connectors. *T18.+gR32.ig*



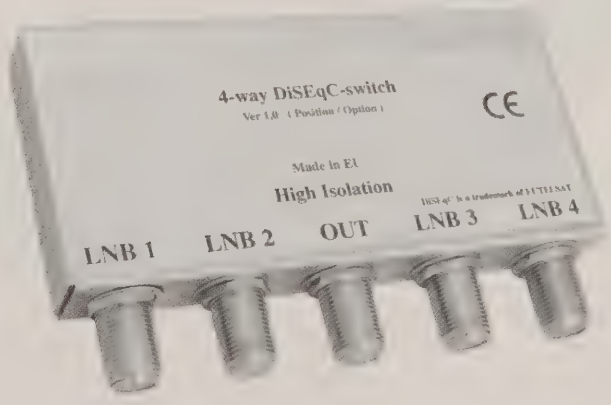
LS22K

DSQ2 2 way DiSEqC switch. Automatically switches between 2 separate LNB's from one DiSEqC equipped receiver programmed to DiSEqC (1.0)- and Mini-DiSEqC -(toneburst) modes used by most receiver manufacturers. Short Circuit Protection and automatic re-set included. DSQ2 2-way DiSEqC-switch is Ver 1.0 (+ toneburst) compliant and compatible with Digital and Analogue Ku and C band signals. Weatherproof housing included. Made in EU. *T19.+gR33.ig*



DSQ4 4 way DiSEqC switch, automatically switches between up to 4 separate LNB's using controls built into most satellite receivers. Designed to work with all existing DiSEqC-receivers, DSQ4 is programmed to the DiSEqC standard used by Nokia, Pace etc. Short Circuit Protection and auto. re-set are included. Ver 1.0 DiSEqC and Digital and Analaogue Ku and C band compatible, DSQ4 is designed to work in both single installations and in complex MF-networks. Isolation between the outputs is relatively high at >25 dB. Weatherproof housing similar to that for DSQ2 included. Made in EU. *T29.+gR51.ig*

Frequency range:	900-2200 MHz
Current:	25 mA max
Insertion loss:	Typical 1.5 dB, max 3.0 dB
Isolation:	More than 25 dB
Default mode:	Output 1
Amplitude:	0.6 Vpp + 0.2 Vpp



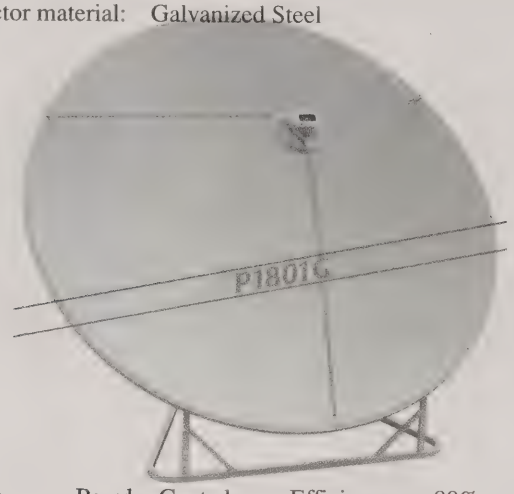
Ask us about DiSEqC 1.2 positioners for big dishes

Dish Antennas for C and Ku bands

P1801G *T279.+gR491.ig*

Precision 1.8m pressed dish, suitable for C or Ku band use. Complete with patio mount, clips and masonry fixings that enable installation on any reasonably flat surface. Can be fixed to prefabricated concrete pavers. Excellent performance at low cost.

Reflector material: Galvanized Steel



Finish:	Powder Coated	Efficiency:	80%
Elev. angle:	30° to 80°	Reflector:	.8mm thick
F/D ratio:	.37	Focal length:	670mm
C band gain:	37dB	Ku band gain:	46dB

Support arms included, feed shown in pictures excluded!

Four section 16-Panel, polar steerable, prime focus dish antennas with quad feed supports. Aluminium mesh reflector material, all electrostatic powder coated. Operating frequency range: 3.20 - 12.75 GHz C or Ku bands. Substantial LNB and feedhorn cover included with each dish.

	AI2.3	**AI3.1**
Diameter:	2.27m	3.07m
Focal Length:	92.5cm	121.5cm
Depth:	34.8cm	48.5cm
F/D Ratio:	0.40	0.40
Gain C-Band:	39.0 dBi	41.2 dBi
Gain Ku-Band:	47.0 dBi	48.2 dBi
Dish Net Weight:	9 Kg	18 Kg
Net Volume:	0.1860 CBM	0.3807 CBM
	T390.+gR570.ig	*T520.+gR780.ig*

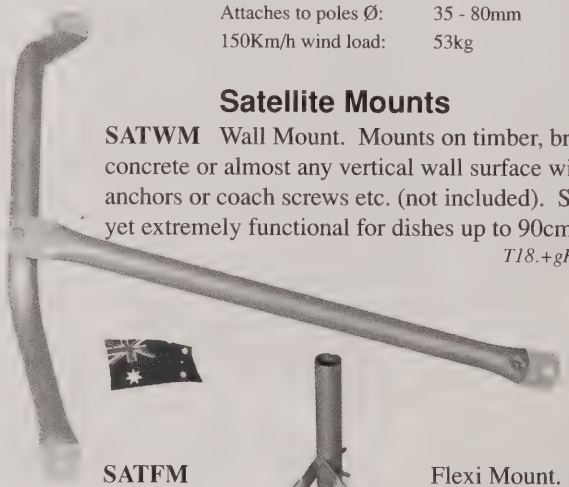
SAVE on Penta bundled with matched KF21 LNBF!

PENTA 85 A precise design equal in gain to better quality 85cm offset dishes, Ku band Penta's unique five sided shape dramatically reduces side lobes common in small dishes. Made from powder coated steel (aluminium by special order) and supported on a strong steel mount. Ships in cartons of 10 pieces to minimise shipping costs. *LNBF excluded.* *T79.+gR120.ig*

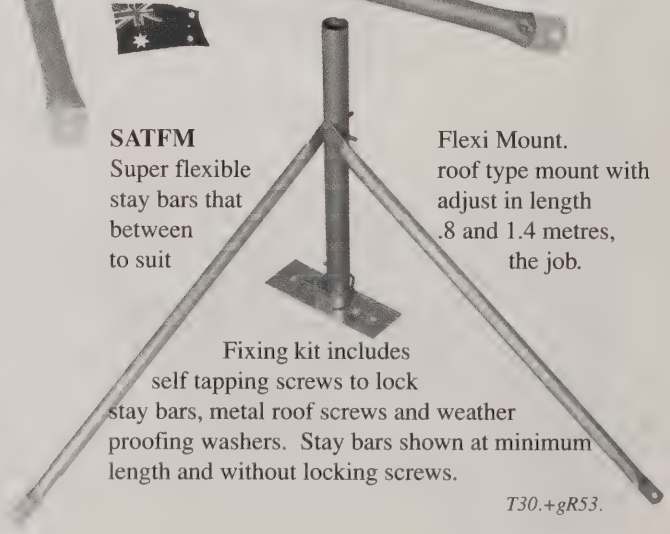
DIGIT 65 A 65cm version of the Penta 85. Quality from top to toe, Digit 65 outperforms most 65cm dishes whilst looking good. Powder coated steel construction supported on an easy to use steel mount. Ships in cartons of 10 pieces to minimise shipping costs. *LNBF excluded.* *T59.+gR89.ig*

SPECIFICATIONS	Penta Digit	Penta 85
Dimensions mm:	624 x 624	775 x 775
Offset angle:	22.3°	22.1°
Efficiency:	≥70%	≥70%
Gain @ 10.95GHz:	36.5dB	39dB
Cross Polariz.:	>37dB	>38dB
Noise Temp. @30° elev.	40°K	40°K
F/D Equivalent:	.7	.7
Beamwidth @ 3dB:	3°	2.2°
Accepts LNBF Ø mm:	23-28, 40 & 60;	23-28, 40 & 60
Attaches to poles Ø:	35 - 80mm	35 - 80mm
150Km/h wind load:	53kg	81kg

Satellite Mounts



SATWM Wall Mount. Mounts on timber, brick, concrete or almost any vertical wall surface with sleeve anchors or coach screws etc. (not included). Simple yet extremely functional for dishes up to 90cm. *T18.+gR32.*

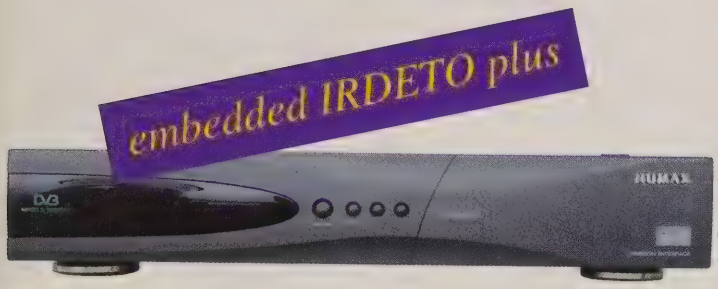


SATFM Flexi Mount. Super flexible roof type mount with stay bars that adjust in length between .8 and 1.4 metres, to suit the job.

Fixing kit includes self tapping screws to lock stay bars, metal roof screws and weather proofing washers. Stay bars shown at minimum length and without locking screws. *T30.+gR53.*

Digital Television & Radio Set Top Box Receivers

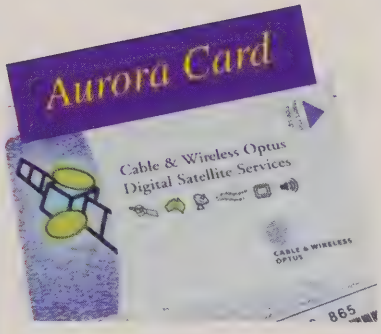
TDB-2001 The first receiver for reception of Australian Digital Terrestrial TV signals. Switchable between 4x3 and 16x9 aspect ratio's. Due to the robust anti-ghost nature of the COFDM signal, this receiver is suitable for integrating perfect Standard Definition pictures into MATV systems etc. where imperfect analogue is all that has been available. On Screen Display provides pre-vitebi bit error rate with signal quality and level bars.



IRCI-5400 Probably the most flexible Digital Satellite TV receiver available. Features include embedded IRDETO card slot for Optus Aurora etc. and an extra two PCMCIA slots for other Conditional Access modules. Electronic Program Guide with Picture in Picture, works equally well with C or Ku bands, auto search, DiSEqC 1.0 & 1.2, etc. A really nice box that is a best seller.

ABS-7970 Embedded IRDETO receiver approved by Optus for their Aurora platform. A fast and reliable Aurora box at a modest price. 'Open TV' services supported. Receives Aurora TV and a wide range of Australian radio services with CD quality audio. AURCRD required to receive encrypted services.

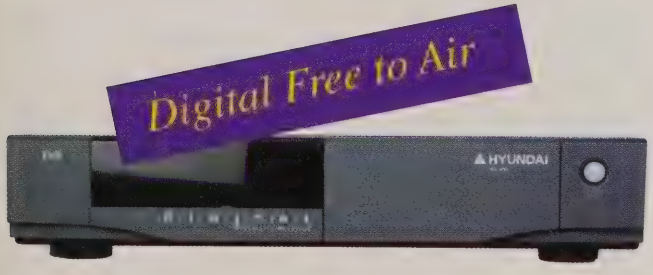
The fast pace of change in digital receiver technologies means receiver availability may differ from what is shown. Please call (03) 9783 2388 for Lacey's latest in Terrestrial and Satellite TV and radio Set Top Boxes.



Ask for our Aurora package:
Dish, LNB, Receiver, Card and Mount

AURCRD Optus Aurora IRDETO conditional access card. Instantly enables reception of ABC and SBS TV and radio services. This card is required for 'Black Spot' access to Imparja and Central 7 TV, subject to ABA approval. No subscription payable for Aurora services. Only available with purchase of an IRDETO receiver.

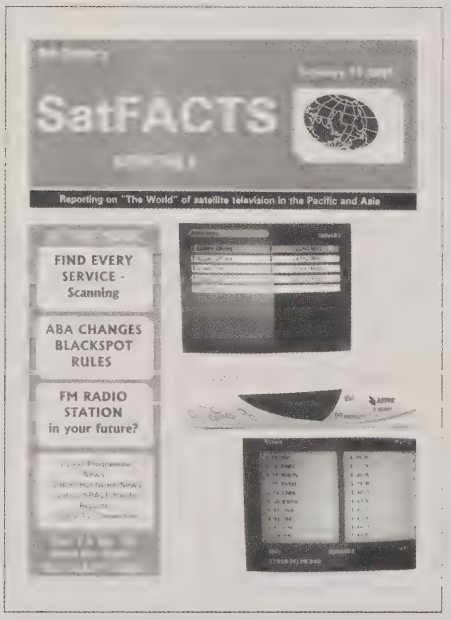
SC201DAP Digital and Analogue Satellite Receiver with Positioner for Free to Air signals. Pre configured for most popular satellites, SatCruiser receivers feature automatic Symbol Rate search which enables a scan of any satellite to automatically load programs. Included as standard are NTSC-PAL conversion, PowerVu compatability, 22KHz and DiSEqC switching, Teletext and SCPC compatability. A high level of flexibility at a modest cost.



HD-300 Free to air digital satellite receiver with the very latest of features. Stores up to 1400 channels and 150 transponders per satellite. User friendly and well defined On Screen Display. Fast and comprehensive search function. Picture in Picture program select screen, wide symbol rate range, DiSEqC 1.0 & 1.2, etc.

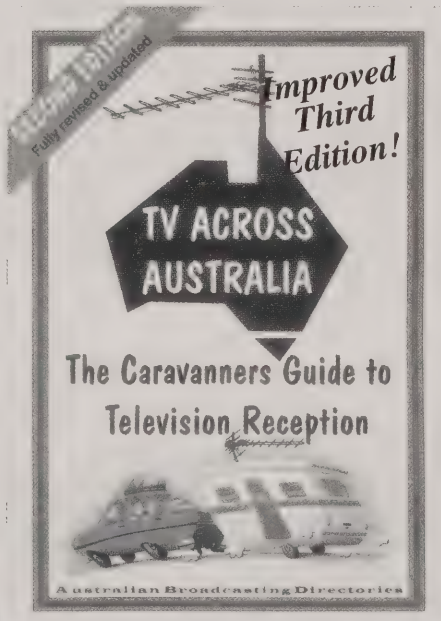
Technical Books

0WSTV A&NZ 2
The World of Satellite TV
Everything you need to know and more about Satellite TV for Australia & New Zealand. Comprehensive list of footprint maps and transponder allocation charts. Considered by many to be the best introductory book on the subject! Almost 220 pages.
R29.90ig


SatFACTS
Reporting on "The World" of satellite television in the Pacific and Asia
FIND EVERY SERVICE - Scanning
ABA CHANGES BLACKSPOT RULES
FM RADIO STATION in your future?

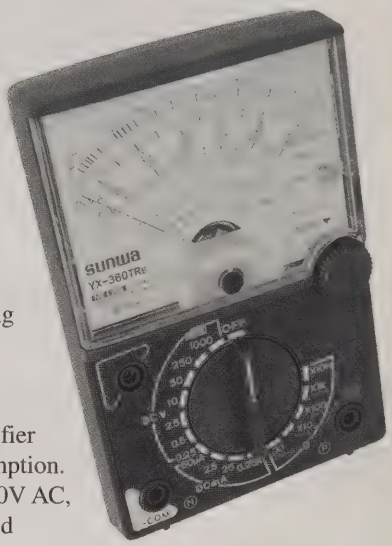
0SatFACTS12
Satellite & Terrestrial TV monthly magazine for Australia and New Zealand. Feature articles on hot topics and regular columns. The industry reference you can't afford to be without, published by industry pioneer Bob Cooper. A4 in size, available by subscription only. 12 editions mailed directly. *R108.ig*

0TVAA3
TV Across Australia
The technicians and travellers guide to TV in every corner of Australia. More Maps of better quality. Analogue & Digital channels included with space for new services as they happen. The reference for technicians and travellers, includes transmiters, areas and TV networks.
R23.95ig



Multi-purpose electrical measuring Meter

YX-360 Analogue general purpose multi-meter *T12.9+gR23.*



Low cost meter for general purpose electrical measurements. Ranges for DC Volts, AC Volts, Resistance and Current. The instantaneous nature of the analogue meter movement can respond more quickly than a more complicated digital multimeter providing more accurate results. Applications include measurements of cable continuity, masthead amplifier voltage and current consumption. Able to measure up to 1000V AC, but caution is recommended measuring mains voltages and above due to the potential risks to personal safety. Tests leads included. Stock may vary slightly from picture.

UNAOHM

EP 690X Test Pattern Generator. *T2,295.+g*

Important for the proper calibration and repair of colour TVs, monitors, video recorders and CCTV/CATV systems, EP 690X generates eleven different PAL television patterns and interlace lines as either a modulated RF output or composite video.

A 4 digit vision carrier frequency display shows RF output freq. anywhere between 35MHz and 950MHz.

Stepped RF output signal levels vary from a maximum of 90dBµV (31.6mV) down to 20dBµV in seven 10dB steps to provide a known and consistent signal level, permitting repair and calibration beyond that achieveable with common test pattern generators.

Sound carrier can be modulated via any external audio source or with internal 1kHz. External video can also be used to modulate the EP 690X. Sync output is provided at line, frame, or 4.43MHz. Chroma level and video ampl. are user adjustable.

VIDEO PATTERNS
Crosshatch: *15 vertical and 11 horizontal lines.*
Circle: *Circle on dark background.*
Crosshatch & circle: *Combination of the two above.*
Composite Pattern: *Check, grey scale, & definition lines.*
White: *100% white signal luminance. Coded.*
Red: *Red with 75% saturation and 103° chroma phase.*
Green: *Green with 75% saturation and 241° chroma phase.*
Blue: *Blue with 75% saturation and 347° chroma phase.*
Test: *Special pattern ANTI-PAL.*
Test: *Special pattern PAL.*
External: *0.8 V into 10KΩ for same deviation as internal mod.*
Unmodulated: *Sound carrier output only.*

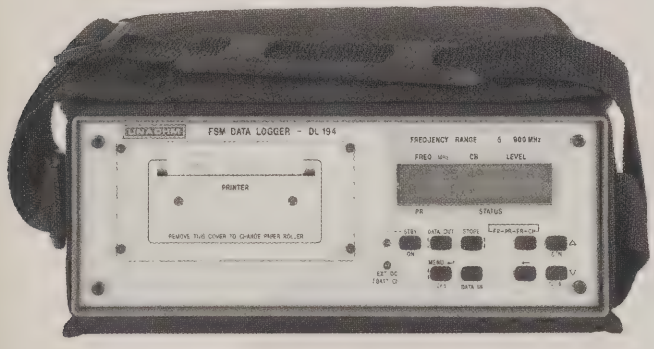
DL 194 *T1,480.+g*

A high-performance data logger and field strength meter developed for general TV signal measurement and CATV applications, DL194 works up to 900 MHz for today's high bandwidth cable systems, and includes the sub-band down to 5 MHz. Tune by FRequency, CHannel, or up to 100 user PReset programmes, giving the operator maximum flexibility.

Accurate level reading between 20 and 130 dBµV over 46 to 900 MHz and 40 to 130 dBµV over 5 to 46 MHz is achieved with the help of an auto-range attenuator. Auto. Carrier to Noise and Video to Audio ratio measurements facilitate evaluation of TV picture quality and system equalization. A 32 character, alpha-numeric LCD display shows FRequency and CHannel together with level. Measurement of Digital Channel Power is also possible.

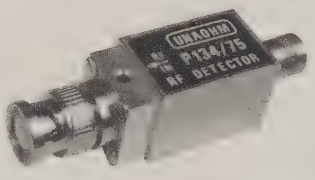
In logging mode, the DL 194 will automatically acquire measurements to times or intervals programmed either by front panel key-pad or via RS 232 data port from PC or modem. Up to ten customized data acquisition plans can be programmed. Pass or Fail test is also provided. Abundant data storage capability lets you capture the results of critical measurements for later analysis; via a PC, an external printer, or the unit's own display. The acquired results can even be hard copied via the DL 194's standard internal printer.

Powered from an internal 12V/1.8 Ah lead-acid battery, the unit is delivered with a small outboard power-supply/battery-charger. The compact DL 194 weighs 2.8 kg, and comes with a nylon protection bag and shoulder-strap.



UNAOHM

P134/75 Radio frequency detector 2GHz 75Ω, instrument quality. Enables RF sweep traces to be displayed on a common oscilloscope. Connects between oscilloscope and device under test. A sweep marker generator (noise generator) is required to provide a signal source. The P134/75 is particularly useful for bench filter design and alignment work at low instrument cost.
T245.+g



P121 Power Inserter with LED indicator, instrument quality. Powers masthead amplifiers and preamplifiers from any instrument without an internal DC block but with a V output, including Unaohm EP 305 and FSM 5991.
T81.+g

› **EP 507** The professional TV Analyser with a broad range of traditional analogue Television measures. Options measure COFDM Terrestrial, QPSK Satellite and QAM Cable Digital Signal Quality concurrently. Spectrum mode provides two colour-coded frequency markers that simplify measurements of Digital Channel Power, Frequency and Level difference etc., at a selection of measurement bandwidths. A high resolution colour LCD monitor which displays Spectrum, PAL, SECAM and Teletext, is employed.

Options include real time QPSK Constellation Diagram, QPSK, QAM and COFDM Signal Quality measures at 3 points, MPEG Digital TV vision & sound decoder for FTA, high level Noise Generator, Printer, Data Logger, 2230 MHz frequency extension, NTSC, Nicam, and 50Ω input. Microprocessor control and PLL synthesis techniques provide automatic measurement modes that include Carrier to Noise ratio, Video-to-Audio ratio and optional Data logging. A 100 location memory function will store any channel in any world standard over the EP 507's frequency range of 5 to 2,150 MHz. Measurements of the most complex TV distribution systems are possible. The optional internal printer allows spectrum and measurements to be hard-copied in the field, or they can be logged for later evaluation on a PC via an RS 232 port. Ancillary functions include, DiSEqC switching, 22 kHz tone switching, a selection of LNB /masthead amp voltages, Ku or C band, and Audio Tone with range end indicator for dish or antenna peaking. The optional noise reference signal source generates a functional 77dBµV across 45-2,000MHz. Two SCART sockets provide multiple in/out possibilities. Built in a manner that permits upgrading to include newly developed functions as they become available, Unaohm is first again with an instrument that measures TV today and tomorrow. ›

› **EP 319** A no compromise maintenance and troubleshooting tool for system engineers and installers involved in both Analogue and Digital television worlds. Level and Spectrum measurements are highly accurate and selectable. Resolution Bandwidths of 100kHz 1.5MHz & 4MHz provide the best real time spectrum displays of signals from Analogue TV, stereo audio and colour sub-carriers to Digital SCPC satellite signals. Return path measurements are provided for 5-40MHz sub-band. Data logging of both analogue and digital signals over long periods of time is also provided. Average digital channel power over a user selected bandwidth is automatically measured.

Digital Signal Quality measurements for QPSK+COFDM or QPSK+QAM are optional. From Bit Error Rates, Reed Solomon Uncorrected error count and Digital Signal to Noise measures, the installer can quickly determine actual signal integrity. These measurements are vital, as viewing a digital picture or even analogue signal to noise measurements, do not show how close your signal is to total picture failure.

Operational running time extends beyond 1 hour thanks to a long lasting compact Ni MH battery pack (included) in a battery compartment accessed from outside at the swing of a lid.

Features include a Pulse Encoder for fast access, Dual Spectrum Markers with Frequency and Level difference measures, an electronic graticule, improved 0n Screen Display, automatic analogue Carrier to Noise and Vision to Audio ratio measures, internal LNB or masthead amp. power, DiSEqC 2.0 switching, Teletext, SCART AV socket, printer modem or PC RS232, and a 4&1/2" black & white CRT. Options include an internal Noise Generator test source, MPEG2 Transport Stream out, 2,230MHz freq. extension, Fast Charge kit for continuous field use, 50Ω input impedance and Nicam. ›

‹ EP 507

Finance can be arranged

‹ EP 319

EP 313 ›

Ask for our brochures

UNAOHM

TBM 299 ›

SBM 105 ›

‹ **EP313** *T2,997.+g*

An accurate quality instrument for terrestrial and satellite TV measurements that won't break the bank. Sensitivity down to 20dBµV allows the weakest of TV signals to be detected. Frequency and level readings can be taken at all times regardless of operational mode. A 100mm CRT with On Screen Display (OSD) provides access to a wide range of functions. Audio Tone and Bar graph simplify peaking aerial or dish for maximum signal strength, whilst Spectrum and Expanded Spectrum modes provide an easy to see frequency marker and Video Filter to smooth the spectrum display. Narrow 100Khz RBW all the way up to 2,150MHz shows detail like TV stereo sub-carrier, etc! Optimizing LNB skew is a snap! Carrier to Noise, Vision to Audio ratio and Digital Channel Power measurements display digitally, and are automatic. All known VHF UHF and CATV channel plans are preset enabling tuning by Channel almost anywhere. Often used channels and data such as TV standard, LNB voltage, 22kHz selection, satellite sub-carrier and video polarity can be stored in 100 preset positions, saving time measuring TV distribution systems. EP 313 can also tune by Frequency either by direct entry or in steps of your choice. Full analogue TV picture can be combined with either level bar graph or sync pulse and colour burst display. Teletext is standard. AM, FM and TV audio sub-carrier demodulation enables most audio to be heard. The mains power supply included runs the EP313 continuously or recharges the optional internal high capacity battery overnight for up to two hours of in field use. Housed in a rugged case that enhances portability, EP313 includes an attractive nylon-based carry bag with accessory pocket and shoulder strap. COFDM and QPSK signal quality measurement are factory options for EP 313. ‹

‹ **TBM 299** COFDM Signal Quality Analyser *T3,083.+g*

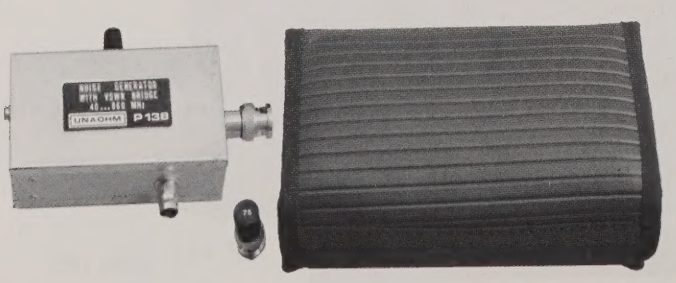
The complete terrestrial TV analyser TBM-299 Locks a digital data stream to measure real time signal quality, as opposed to estimating from analogue signal to noise measures. BER is measured at 3 points including RU errors, enabling all signal qualities between virtually error free and the point of picture loss to be meaningfully measured. TBM 299 incorporates single sweep 40-860MHz Spectrum Analysis with adjustable span and Digital & Analogue Signal Level measurement. Sealed lead acid battery and charger included. ‹

‹ **SBM105** QPSK Signal Quality Analyser *T2,531.+g*

Innovative stand alone Digital Signal Quality measuring instrument for satellite. Measures BER at 3 points to show clearly signal quality all the way from error free to signal at the edge of picture loss. Digital Signal to Noise Ratio indicates Digital Signal Quality across the entire range in one measure. Also included are Spectrum Display and Signal Level Measurement. Internal sealed lead acid battery and charger included. LNB supply is integrated making precision peaking possible with no more than dish, LNB and an SBM-105. ‹

CBM 150 QAM Signal Quality Meter *T2,531.+g*

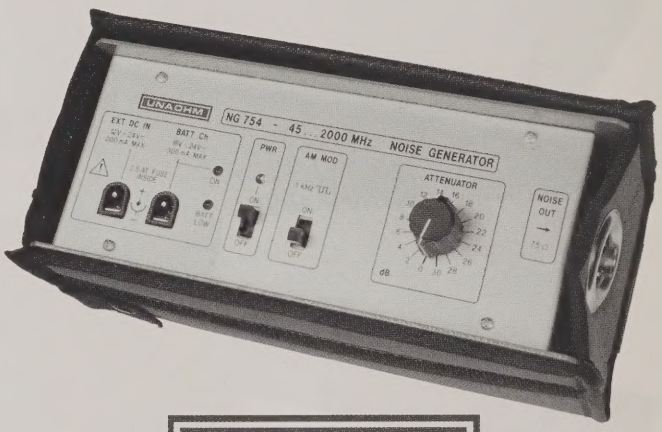
Similar to SBM-105 in function, for QAM Digital Signal Quality measurement in CATV and MATV systems.



NG754 *T1,179.+g*

New free standing 45-2,000MHz noise generator. Vital for checking frequency response (and standing waves with P257 75Ω bridge) of anything, the alignment of filters, etc. Also enables entire MATV & SMATV systems to be swept. Higher more useful output level than other noise generators.

Frequency Range: *45-2,000MHz.* Output Level: *equal to 77 dBµV(-30dBm) on a 1MHz measurement bandwidth.* Attenuator: *0-30dB in 2dB steps.* Attenuator Accuracy: *±.5dB 45 to 1,000MHz ±1.5dB 1,000 to 2,000MHz.* Internal AM Modulation: *1KHz ±5% square wave switchable.* Attenuator Precision: *±1dB in 0dB position.* Stability: *±2dB over ±20°C* Output Impedance: *75Ω.* Output Connector: *BNC.* Power: *Internal 12V DC 800mAh NiCad included, External 18-24V DC via mains supply / charger included.* Field Case : *included.* Operating Temperature Range: *+5°C to +40°C.*



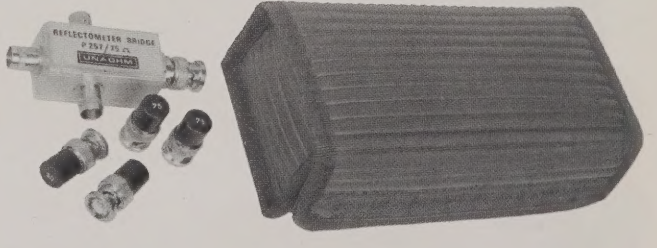
UNAOHM

NG 96 Noise Generator module 75Ω. *T351.+g*

As used in NG 754, without AM modulation or attenuator. Internal optional extra for EP 507 and EP 319 at a fraction of the cost of NG 754. The ability to sweep anything makes NG96 a must have!

P257/75 Reflectometer Bridge 75Ω. *T327.+g*

Measures reflection co-efficient of almost anything with NG754 noise generator, sweep generator etc. and analyser or signal meter. Frequency Range: *45-2,000MHz* Impedance: *75Ω,* Directivity: *30dB,* Included: *2 x 75Ω, 1 x 50Ω & 1 x 100Ω terminators, and soft case.*



P138 Reflectometer Bridge & built-in Noise Generator. *T397.+g*

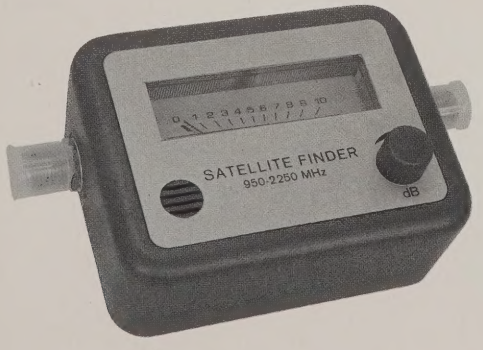
Measure loss & reflected power over 45-860MHz with spectrum analyser or signal meter. Impedance: *75Ω,* Directivity: *30dB.* Power: *12V DC* as supplied by Unaohm meters & analysers. Case included.

TC 402 A/D Signal Level Meter 40-870MHz. *T795+g*
A reliable low cost signal level meter for terrestrial television. Covers Microwave MDS 1st IF too. Four digit LCD frequency display for accurate tuning and built in loudspeaker allows identification of program by audio. Improved precision with instrument calibrated every 10dB, and individualised correction chart for each instrument is included. The TC 402 A/D can be read in either dBµV or µV/mV to accomodate all technicians and measures Digital Channel Power.

SADELTA

Frequency Range: *40-870MHz.* Frequency Accuracy: ± *.1% ±1 digit.* Freq. Resolution: *100KHz.* Impedance: *75Ω.* Connector: *BNC.* Sensitivity: *26-100dBµV.* Scale: *dBµV, µV/mV.* Scale Dynamic Range: *12dB.* IF bandwidth: *800KHz.* Power: *8x1.5V AA batt. / 12V DC.* Size:*220x91x235mm.* Weight: *1.9Kg.*

SF96 Broadband satellite signal level finder. *T39.+gR65.ig*
Indicates 950-2,150MHz signal strength by meter deflection and audio tone pitch. Sensitivity control permits adjustment for different signal levels. Line powered by LNB supply. F type female connectors at input and output.

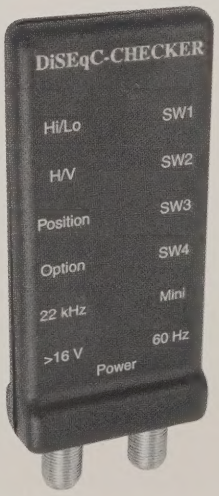


MC360B Signal Level Meter 47-2,080MHz. *T1,750.+g*
A complete signal level meter for all satellite and terrestrial frequencies that measures 20 - 110dBµV over 47-870MHz and 50 - 100dBµV over 900-2,080MHz. Automatic Frequency Control locks on to the signal to be measured, reducing the need for fine tuning. Audio tone pitch function indicates signal level for hands off dish or antenna peaking, whilst FM and AM audio detectors enable audio monitoring of VHF and UHF where necessary. RF and IF attenuators provide precision signal level readings over a wide range of signal levels. The instrument can supply up to 350mA for LNBF or masthead amp power from NiCad batteries and charger that are included. Field case and strap are also included at no extra cost.

PROMAX

Frequency Range: *TV 47-870 & Sat 900-2080MHz.* Frequency indicator: *5 digit LCD.* Freq. Resolution: *100KHz.* Dynamic Range: *30dB.* Sensitivity: *TV 20 to 110dBµV / Sat 50-100dBµV.* Power: *6 x C size NiCad, 12 - 15V DC charger / adapter included.* IF b.w.: *300KHz. TV / 27MHz. Sat.* Scale: *dBµV.* Impedance:*75Ω.* Input Connector: *BNC.* Size: *220 x 105 x 235mm.* Weight:*2.6Kg.* Sat Finder: *shows all active transponders for initial alignment.* Audio: *AM or FM monitor for VHF/UHF, tone in proportion to Sat. level.* LNB Power: *0/13/15/18V short circuit protected.* I LNC: *measures LNB current to .6A to help identify LNB's likely to fail.*

DSQCHQ
DiSEqC checker. *T49.+gR86.ig*
13 LED DiSEqC status indicator. Enables tracking of elusive DiSEqC system faults. Connects in line between satellite receiver and DiSEqC switch (etc.) via F type female connectors. Powers from set top box or instrument. Batteries or other external supply not required.



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Catalogue No. 103

ABC choose FR

When the ABC needed to monitor regional TV transmitters up to 200Km away from master control at Ripponlea (Melbourne), they bought Fracarro antennas and single channel masthead amplifiers.

World renowned instrument manufacturer Rohde & Schwarz include an Unaohm TV instrument as part of their complete radio frequency monitoring set for Government authories.